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THE UNIVERSITY OF ALBERTA

POWER MANAGEMENT
IN A TEAM ORGANIZATION

BY

© M. H. ELIZABETH ATKINSON

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
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IN

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THE UNIVERSITY OF ALBERTA

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Power Management in a Team Organization

submitted by M.H. Elizabeth Atkinson

in partial fulfilment of the requirement of

Doctor of Philosophy

in Educational Psychology.

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DEDICATIONS

To my family,

who sacrificed their needs, and withheld their demands to allow me to complete this research and who provided their love.

To my uncles,

who set the example for me to follow.

ABSTRACT

In a team organization, the management of power is critical for effective team functioning. Eight teams comprising between five and ten members per team were selected from an operating organization. The individual members of the teams were asked using an open-ended approach about the nature of the power bases on their teams, about the distribution of power among these members, and about the use of power bases by team members. These teams were also observed in action and the use of power measured.

The results were analyzed using the exchange theory approach of Blau (1969) on the basis that a process oriented model was more appropriate. It was found that reward or punishment were not identified as power bases and that legitimate or position power was recognized as a base by only four of the eight teams. There appeared to be some relationship between the power base and the tactics used to employ it, although many of the tactics overlapped.

There was significant agreement among the members on five of the eight teams as to what four power bases were operating on their teams. There was also highly significant (χ^2 <.001) agreement on all teams as to which members were the principle power holders. It was also found that there was a significant difference between a team member's choice of group and individual power bases.

With reference to the use of power on the teams, there was a significant discrepancy between estimated or perceived power abuse and observed power abuse. Although there was a correlation of 0.91 between perceived and observed power holders on the teams, the comparison of perceived and actual rankings of the power holders yielded a correlation of only 0.18.

One last part of this research project was directed at identifying an intervention strategy which would help to reduce power imbalance in teams. No significant difference was found between the experimental group of four teams in which the intervention was used and the control group. It was observed, however, that both groups generally exhibited a reduction in power abuse and power imbalance between time 1 and time 2.

This research explored a complex area of psychology relating to the measurement of power and its management, It has opened several avenues for future study such as behavioural measures of power, the relation between a power base and the tactics used to employ it, and improved methods of power management.

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CHAPTER ONE

INTRODUCTION

The concept of power can invoke a variety of images ranging from the charismatic political power exhibited by the Ayatollah Khomeni in Iran to daily incidents such as a spouse determining where a couple will go for dinner. Both of these are examples of the exercise of power and both can be analyzed and understood using the same parameters. This study looks at power as it occurs between individuals in a team organization. Teams are groups of people brought together to achieve collective goals. Such groups can generate significant amounts of power (Martin and Sims, 1971). Power management in teams is the effective distribution and utilization of this created power.

The particular form of team organization which was studied was the link-pin team system as conceptualized by Likert and Likert (1976). This arrangement of function and personnel operates as a multi-functional organism with the various functions being performed by teams which are linked together at specific points by link-pins. These persons are responsible for coordinating functions so that the total organism operates as a consistent whole. Because these persons act as coordinator rather than supervisor the link-pin team system results in a flatter organization than one that is constructed vertically.

A prerequisite for a team organization is that there be a high degree of interdependence, not only among the members of a team but also between teams. Thus the success of X depends on Y. If this interdependence exists in an operation, the team system will be more effective than a hierarchical system because it is structured on the interaction and joint decision making of a number of individuals. The philosophy behind the system rests on a belief that a quality decision is one that involves the necessary expertise and participation of all the individuals who are impacted by that decision (Merry and Allerhand, 1977). The link-pin team system uses consensual decision making in the teams and delegates decisions to the impacted level rather than one or two levels above; for example, a decision on vacation schedules will be made by those taking vacations, not by a supervisor or manager (Likert and Likert, 1976).

This study is a consequence of a program which has been carried out over the last three and a half years. The program included:

1. designing a team organization,
2. selecting personnel for the teams, and,
3. designing and implementing training programs aimed at having the organization function effectively.

These programs included: a) interpersonal skill development, b) team building, c) facilitation training, and d) monitoring, evaluating, and adjusting the programs on an ongoing basis.

Personnel such as operating technicians were formed into teams whose activities were coordinated by link-pins who in turn formed another team and so on (see Figure 1).

Personnel Selection

The selection of personnel for the teams involved work history (resumes), interviews, and psychological testing. This last component was incorporated because it was felt that not everyone would be readily adaptable to working in this type of environment. A highly dependent individual, for example, would have difficulty completing her share of the work load. (For the purpose of this thesis the female form of the pronoun will be used to cover both sexes.)

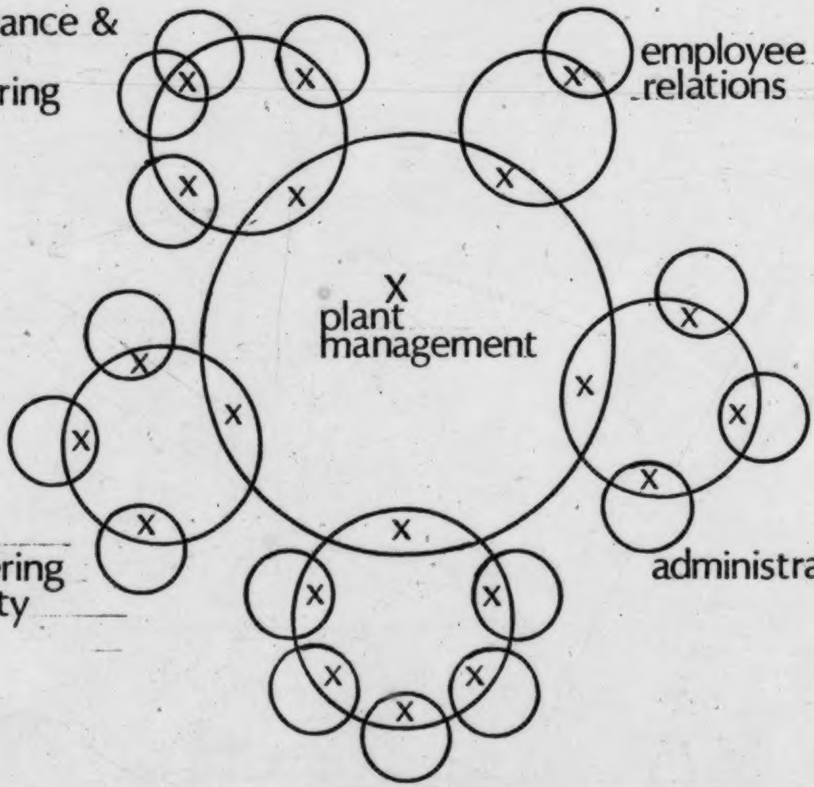
The rationale for the choice of selection criteria and level designation was based on a set of hypotheses which in turn were based on: a) a set of assumptions about what was required by an individual for her to work in a loosely structured environment, and b) a survey of companies which were operating in a similar fashion.

The key selection criteria used were: intelligence, skill level, cognitive flexibility, dominance, independence, perception, interest in others' needs, aggression, and achievement. On all these variables an above average level was sought; on some factors a level significantly higher than average was sought.

Training Programs

Three team training programs were set up. The first was an interpersonal skill development program in which week long sessions were conducted with groups comprising

Organizational Design For Alberta Gas Ethylene


maintenance &
plant
engineering
employee
relations
X
plant
management
administration
process
engineering
& quality
control
operations

x, link pin

- Figure 1 -

seven to fourteen members selected on a cross organizational basis. The primary purpose of this program was to provide participants with an opportunity to experience the impact of their behaviour in a low risk environment. The focus was on process rather than content and on feelings rather than thoughts. The specific types of behaviour dealt with were communication, conflict, leadership, and processing.

Goals of the programs were: 1) to make the participants aware of the impact of existing choices of behaviour on the individual's and group/individual's and group's effectiveness; 2) to make the participants achieve an appreciation of alternative behaviours open to her; 3) to provide the participant with an opportunity to practise new behaviour where she indicated a desire to change; 4) to increase the participant's ability to sense, label and express feelings; and 5) to teach the individual a three-stage process for giving constructive feedback.

Five-day team development sessions were conducted for each of the nineteen teams after all of the team members had been through the interpersonal skill development program. Activities included: a) exploring role expectations, b) exploring the discrepancies between an individual's theory in use and the team's theory of action for that individual, c) exploring blocks to confrontation between team members, d) exploring the power distribution, e) learning some models of problem solving, and f) creating and establishing a method of team and self evaluation. The major goal was to develop team members to a level where they could manage their own subsequent development with little or no outside assistance.

Four-day facilitator training sessions were conducted for all link-pins and for selected individuals who had shown a natural flair for processing. This program was aimed at increasing the facilitation skills of the participants by providing them with an opportunity to enhance their present skills and to learn new ones. The author's three stages of facilitation - 'diagnosis, intervention, and follow through' were the basis of the program. " Diagnosis" involves speculating about observations of a participant's or group's behaviour and determining what change is desired. "Intervention" involves selection and implementation of intervention behaviour that will result in the desired change. "Follow through" involves evaluating the results of the intervention and taking the action necessary to complete the change.

Ongoing Monitoring, Evaluating and Adjusting

The fourth stage of the project has been described as ongoing monitoring, evaluating and adjusting, although in a very real sense these activities have been taking place from the project's inception and are in fact inherent in the nature of many of the specific programs. For example, each training program has an evaluation procedure which consists of analysis of second and final day video tapes of the sessions and of self-reports of change.

On an overall results basis, industrial measures such as turnover, absenteeism and productivity are being compiled. Early results with respect to turnover indicate that it was at levels of 3.5% and 10% in years one and two respectively, which compare favourably with industry experience of 30-40% (Caple, 1980). It is still too early, however, to attribute this result to the organizational system.

As the functioning of the teams themselves is a critical issue to the success of the program, considerable monitoring of their progress has occurred. Some of this has been at the initiative of the author; some has been in response to their requests. The observations resulting from this monitoring have led to the research reported in this thesis.

In the great majority of cases where teams developed problems these centered on power imbalance and abuse. It appears, therefore, that power management has been the weakest area of performance. In order to improve team functioning, the constructs of power imbalance and abuse need to be explored. This realization has provided the impetus and focus for the research to be described.

THE PROBLEM

The current research was aimed at answering the question how to manage power effectively in a team situation.

In order to do this, the study focussed on describing the theoretical nature of power, identifying the power balance/imbalance existing in teams, and training teams on the productive/counterproductive uses of power. Principles of social learning theory were used to develop interventions to help teams learn how to manage their power relationships more effectively.

CHAPTER TWO

RATIONALE FOR THE RESEARCH PROPOSAL

This next section of the dissertation is concerned with describing and establishing the validity of the rationale for the research. Where the points of the rationale are literature based, the content is examined in accordance with the following format:

1) The relationship to team functioning,
2) Definition of terms,
3) Assumptions made,
4) Implications for research,
5) Hypotheses to be tested.

Four factors have led from the team building project into this research study of power. The first factor was an hypothesis that effective power management is at the root of success or failure of the team system. The second factor was the opportunity to use a field study approach to do an analysis of power and influence within the Alberta Gas Ethylene team system. The third factor was the existence of a body of research devoted to establishing a theory of power which is useful and understanding the nature of power in teams. The fourth factor was the existence of some formative conceptualizations of and hypotheses about the social influence process, and power bases and their use which were arrived at during the team building project.

POWER MANAGEMENT AND EFFECTIVE TEAM FUNCTIONING

The literature concerning the management of the balance of power and power uses and abuses as it relates to team effectiveness is scattered throughout the organizational and psychological literature. The studies can be grouped in three areas. The first area is concerned with the benefits to employees from successful team functioning that are directly related with balanced power distribution. The second relates to the benefits to the organization that are directly correlated with power balance amongst team members. The third is concerned with the effect on team processes of effective power management.

Individual Benefits

Many variables are identified in the literature as benefits to individuals resulting from effective team functioning. Whether a variable is a factor or not is really a subjective evaluation, hence an assumption and should be considered as such. All the benefits described in the literature, however, appear to have face validity in the sense that the majority of people in the work force would consider them positive events. They include such variables as job satisfaction, self-esteem, feelings of competence, reduction of stress, increased influence, and self development.

With respect to team benefits, Mansbridge (1973) pointed out that if a team properly deals with inequality amongst team members many of the benefits of the team system can be experienced. One of the major benefits that should occur to an individual is increased influence (Tannenbaum, 1968). This is possible because the power associated with a role, legitimate power, is reduced and other forms of power may take its place (Gavin and McPhail, 1978).

Actual increases in the amount of power available to an organization are said to occur in the following sense. If decision making rests with one individual using her role power and if this is removed and given to a group, power based on factors other than role such as expertise, popularity, and information control can emerge. The conclusion of Tannenbaum (1968) is that in such a situation there is more power available. This is valid in the sense that there are more individuals engaged in influencing behavior using a wider spectrum of bases, but may be faulty in the sense that there is still only the same number of content decisions to be made. Nonetheless, each team member now has an opportunity to influence. If she is unable to do so the basic philosophy of team functioning would be undermined and the team member is left no better off than she would have been in a traditional organization.

Another important benefit from team functioning is stress reduction (Arygis, 1964). This benefit, according to Arygis, (1964) was related to fewer role conflicts between supervisors and subordinates. Thus, if an individual in a team perceives that she is unable to influence, stress may increase rather than decrease because of the uncertainty of relationships. At least in the former case the roles were clear, although chaffing.

Increased job satisfaction is the last of the major benefits. Bachman and Tannenbaum (1968) and Hunt (1972) have directly tied job satisfaction to the individual's perception of having control and influence over outcomes. Therefore, to the extent that she has not experienced influence in the team this individual will forego increased job satisfaction. This also may work in reverse in that having expected to influence and having been disappointed the individual may feel less satisfied than when working in a traditional organization.

Some lesser benefits, in the sense that they are not primary goals of team organization, are increased self-esteem, increased feelings of confidence (Archer 1974), increased opportunity for self evaluation and consequent self development, increased experience of moral and psychological support (Arygis, 1964), increased experience of feelings of solidarity and intensified relationships, increased opportunities to get collective assistance with individual problems (Keniston, 1968), and more opportunities and stimulus for creative input (Mansbridge, 1973). All of the above will not occur if power balance is unmanaged. In addition, as was the case with the primary benefits, the loss of some of these may actually produce a negative side effect because of unmet expectations.

Organizational benefits

The second area of investigation concerns studies that relate to benefits experienced at an organizational level. These are also subjective in the sense of being positively valued. Benefits at an organizational level can be sorted into criteria which are performance related and criteria which are industrial measures. The former include more creative and flexible problem solving, further committment to the corporate goals and objectives (Tannenbaum, 1968), more effective problem solving (Bowers, 1976), more effective decision making (Merry and Allerhand, 1977), and greater productivity and resourcefulness of employees (Gordon and Howe, 1977). The latter include measures such as turnover and absenteeism. Organizational benefits are contingent upon the individual benefits. To the extent the individual does not experience these benefits, change at the organizational level will not be felt. In other words, if an individual is not engaging in creative input at a team level the organization will not experience more creative problem solving. From another perspective, to the extent power and hence influence remain in the hands of a few team members the process and the result of decision making will not be unlike what one would expect in a traditional organizational structure.

Malfunctioning teams can produce a bad result for another reason. Having been promised team functioning, employees can develop very negative attitudes if this is not achieved. They may feel deceived and resentful, thus affecting the process and product in a negative direction. The result will be lower productivity, more absenteeism, more turnover and less effective creative problem solving and decision making. The organization may actually go backwards in relation to its goals and objectives.

Team Processes and Power Management

There is good evidence that severed team processes are crucial to and concerned with effective power balance. These include conflict management (Deutsch, 1973), risking (Schutte, 1974), decision making (Merry and Allerhand 1977), integration (Berle, 1967), and committment (Smith and Ari, 1968). One of the results of working in a team structure is an increase in the opportunities for conflicts (Tannenbaum, 1968). If these conflicts are settled by compliance and coercion the result will be bad feelings or defiance, which then get in the way of effective team funtioning (Swingle, 1970, Deutsch, 1973).

Another component related to effective team functioning is willingness to risk disclosure of ideas and feelings. Shutte (1974) demonstrated that equal power resulted in maximum disclosure. Unequal power on the other hand affects both the high power and the low power person in a negative fashion on this dimension.

Since teams are dealing with issues that concern consequential outcomes and the allocation of critical resources and since all team members actually live with the results of the decision making process it is important that they perceive they have been influential. If team decisions are dictated by one or two members rather than arrived at by consensus of the group, individuals will not feel involved. Consequently the decisions may be difficult to implement, lack in creativity, and be unfair (Merry and Allerhand, 1977).

By its nature, the team system depends on the cohesion and integration of its members. Part of the cohesion process is a movement towards balancing power between individuals (Blau, 1967, Emerson, 1962). As Berle (1967) noted, unchallenged use of resources may alter the kind of relationships that are possible between the more and less powerful. This leaves the author to conclude that the earlier one can intervene in terms of power balance the easier it will be to correct any imbalance since the nature of these relationships will not be as firmly established.

Ethical considerations also provide incentive for examining the balance question. Tannenbaum, (1968), Smith and Aries, (1968), and Gavin and McPhail (1978) have explored the amount of power available in the team system. Each research group concluded that team systems have more power to deal with than do hierarchical organizations, a point which was mentioned in the previous section. At an organizational level they determined that in organic systems individuals are more committed, involved and interdependent and allow the corporation to exercise more influence on certain aspects of themselves than if they were in a more traditional organizational structure. In order to be responsible, these organic organizations are therefore obligated to ensure that this extended power base is not managed inequitably.

Three examined points in relation to effective team functioning which were supported in the literature are:

1) there are individual benefits
2) there are organizational benefits
3) team processes are dependent on power management.

Therefore, factor one is strongly established as part of the rationale for the research.

OPPORTUNITY

The second factor in the rationale of the research was that of opportunity. The vice president manufacturing of Alberta Gas Ethylene agreed to allow the author to use the organization for the purposes of research in the power management area. The author's familiarity with the team system which had been created and implemented at Alberta Gas Ethylene made it an ideal organization within which to conduct the study.

LITERATURE REVIEW OF POWER

The third factor mentioned in the rationale was that there exists a body of research in the area of power that could assist one in understanding the nature of power. Historically the study of the influence porcess is in a transition between pretheoretical and theoretical phase (Kuhn, 1962, and Tedeschi and Bonoma, 1972). Over the past forty years various aspects of the influence process have attained prominence and consequently a following of researchers. French and Raven's (1959) bases of power, Milgram (1963) and Ashe's (1956) conformity studies, Bales' (1970) measurement devices, Kelman's (1974) influence integration model, and Michener, Lawler and Bacharach's (1973) target characteristics are a few examples of this phenomena. This type of research process coincides with Tedeschi and Bonoma's (1972) definition of a preparadigm stage of theory development -- a random unorganized inquiry into sub fields lacking theoretical direction. Pollard and Mitchell's (1972) and Tedeschi and Bonoma's (1972) work represent recent attempts to move to a paradigm phase. These theorists have managed or have attempted to integrate various independent research findings and certain theoretical approaches into one theory which accounts for referrent and antecedent events in the influence process, a necessary condition of a theory of the social influence process (Tedeschi and Bonoma, 1972).

To assist the reader in following the author's conclusions which form the basis of the hypotheses formulated in this study, the social influence process has been divided into stages which must be explained by any theory claiming to be comprehensive. The literature review section of this dissertation deals with the four existing theories of the social influence process in the following manner. These theories will be examined in terms of a model as will other relevant research related to each stage in the model. These theories will be critiqued, contrasted and evaluated on the basis of this model and the theory's ability to explain separate research findings. The theories to be reviewed are:

1. Power motive theory (McClelland, 1975)
2. Field theory (Lewin, 1951)
3. Exchange theory (Homans, 1961)
4. Decision theory (Pollard and Mitchell, 1972)

The stages in which the influence process can be understood are: a) operational definitions of social power and influence; b) environmental factors; c) source characteristics -- bases of source power; d) target characteristics; e) tactics; and f) effects on A (source) and B (target) of A's exercising power. Each of these variables of the influence process will be discussed separately.

To facilitate the reader's understanding of this section the terms used must be defined. These will be found on the next several pages and will be organized under the headings contained in the model.

Operational Definitions of Power

Operational definition of power - statement of the meaning of the term power which permits measurements of power.

Power motive - the extent to which the individual is motivated to seek specific goals of personal power so as to self determine events (Minton, 1972).

Domain of power - the actual individuals whom A can influence (Nagel, 1968).

Range of power - the values, behaviours, attitudes and beliefs over which A has influence (Nagel, 1968).

Power focus - the individual or individuals on whom an operational definition concentrates.

Potential power - the capability of overcoming resistance (Minton, 1972).

Manifest power - power previously demonstrated (Minton, 1972).

Possible power - what A could do (Pollard and Mitchell, 1972).

Realized power - A's decision to use some of her possible power in a specific way to obtain some goal (Pollard and Mitchell, 1972).

Effective power - a combination of realized power plus situational factors (Pollard and Mitchell, 1972).

Social power - 'A' obtains desired behaviour from B by influencing the decision making process by providing incentives, information, promises, and threats (Michener and Suchner, 1972).

Non-social power - 'A' obtains her goal independent of and often in spite of B's decisions (Pollard and Mitchell, 1972).

Adversary power - a combination of the magnitude of the damage that A can inflict plus the probability of using it minus the blocking ability and magnitude of retaliation (Michener, Lawler and Bacharach, 1973).

Target Power - feasibility of blocking A plus the magnitude of the damage that B can inflict and the probability of B using it minus the damage that A can inflict plus the probability of A using it (Michener, Lawler, & Bacharach, 1973).

Power Field - represents the needs of either B or A. In the case of A it is the forces pushing A to influence B, in the case of B it is the forces within herself that are supportive of the influence attempt (Lewin, 1951).

Inducing Field - represent forces applied by A which are imposed on B, being incongruent with B's own needs (Lewin, 1951).

Subjective Expected Utility (SEU) - a combination of the perceived likelihood that a behavior will lead to an outcome plus the worth B attaches to the outcome (Tedeschi, Schlenker and Lindskold, 1972).

Upper Limit - the best outcome that B could get from A (Thibaut and Kelley, 1959).

Lower Limit - best outcome B could get from others (Thibaut and Kelley, 1959).

Subjective Expected Value (SEV) - subjectively biased sum of the products of the the consequences of a given act on B's part, times the biased probabilities of these consequences occurring. This biasing by B is based on A's characteristics (Lee, 1971).

Gross Absolute Power - A's total ability to affect the quality of outcomes obtained by B (Thibaut and Kelley, 1959).

Relative Absolute Power - A's ability to affect the quality of outcomes obtained by B minus B's ability to obtain these outcomes elsewhere (Thibaut and Kelley, 1959).

Net Power - gross absolute minus relative absolute (Thibault) and Kelley, 1959).

Environmental factors

Environmental factors - those aspects of the environment which can affect the social influence process.

Social Reality - the individual's perception of her interpersonal environment: such factors as role expectations, appropriate behaviors would be included under this term (McLeod and Chaffee, 1972).

Power Base

Power Base - an element of A which is directly related to A's ability to influence B. The term element refers to a resource in a broad context which includes such factors as abilities, traits, and possessions of A.

Reward Power - the ability to reward B either by providing an inducement or by removing negative stimulation (French and Raven, 1959).

Coercive Power - the ability to punish B either by taking something away from B which she desires or by employing a negative stimulant with B (Raven, 1974).

Expert Power - exists when B evaluates A as expert as compared to herself and an absolute standard (Collins & Raven, 1969). Other power bases in the literature which might be subsumed under expert power are: age factor (Foner, 1975), confidence (Tannenbaum, 1968), competence (Benson, 1976), skill and knowledge (Laswell, 1948), and intelligence (Tedeschi, Schlenker and Bonoma, 1973).

Threshold Power - a special case of expert power. Threshold power exists when an individual has a critical skill in terms of the group's mandate (Mansbridge, 1973).

Referent Power - exists when B identifies with A or wants to be like A. Attractiveness would be a synonym for referent (Walster and Abrahams, 1972).

Information Power - defined as having the facts to determine social reality or as having the control over the flow of information between people (Tedeschi and Bonoma, 1972).

Resource Power - exists when A possesses a property which can be made available to others as instrumental to the satisfaction of their needs and attainment of their goals

(Mansbridge, 1973).

Latent Power - a perceived sense of effectiveness within the individual (Minton, 1972).

Resource Power - exists when A possesses a property which can be made available to others as instrumental to the satisfaction of their needs and attainment of their goals (Mansbridge, 1973).

Latent Power - a perceived sense of effectiveness within the individual (Minton, 1972).

Independent Power - 'A' does not need anything which B possesses, which results in an exchange deficit (Swensen, 1973).

Charismatic Power - a special quality that gives an individual influence or authority (Webster's Dictionary, 1974).

Verbal Fluency - accrues to an individual because of her skill in presenting verbal material (Mansbridge, 1973).

Attribution Process - "is essentially a matching between observed behaviours and categories or concepts supplied by past experience" (DeCharms, 1968, pg. 283).

Target Characteristics

Target Characteristics - those aspects of B which affect the social influence process.

Internal Locus of Control - B believes she controls her own fate (James, Woodruff, and Warren 1965).

External Locus of Control - 'B' believes others are in control of her behavior and needs (Ritchie, Phares, and Davis, 1968).

Low Comparison Level - a low level of expectation of reward and poor self perception of own significance (Tedeschi and Bonoma, 1972).

High Comparison Level - a high expectation of reward and high self perception of position (Tedeschi and Bonoma, 1972).

Idealogical Connection - 'B's' values system is consistent with the value of the ideology of the system (Kelman, 1974).

Role Integration - 'B' is connected to the system by virtue of her role and the acceptance of it (Kelman, 1974).

Normative Connection - 'B' accepts the system right to excertain things from her (Kelman, 1974).

Power Tactics

Power tactics - the means A chooses or B chooses to influence and counter-influence respectively.

Mendations - indirect promises where A is not the provider of the reward (Tedeshi, Schlenker, and Bonoma, 1973)

Persuasion - the use of techniques which are inducements (promises of reward) or mendations (Tedeschi, Schlenker, and Bonoma, 1973).

Coercion - the use of threat and warnings (Tedeschi, Schlenker, and Bonoma, 1973).

Warning - refer to someone other than A as being the punisher (Tedeschi, Schlenker, and Bonoma, 1973)

Contingent Threat - if B does not do (x), A will do (y) (Schelling, 1966).

Non Contingent Threat - 'A' will do (y) regardles of what B does (Schelling, 1966).

Compellent Threat - 'B' must perform (x) to avoid (y) (Schelling, 1966).

Deterrent Threat - 'A' orders B not to do (x) (Schelling, 1966).

Activation of Commitments - would involve the use of "ought" (Kelman, 1974).

Ecological Control - relates to indirectly controlling the environment of B in some way (Tedeschi and Bonoma, 1972).

Manipulation - any technique which A uses where A deliberately attempts to keep B unaware of her intentions (Tedeschi and Lindskold, 1976).

Coalitions - formation of a group to increase power (Mitchener and Suchner, 1972).

Bargaining - attempting to determine B's utilities while A tries to hide her own (Deutsch and Krauss, 1960).

Gate-keeping - controlling access to information and the flow of information (Pettigrew, 1972).

Censoring - screening and editing information before disseminating. 'A' only uses the information which supports her case (Pettigrew, 1972).

Kinesics - using the body to send out approval or disapproval messages (Birdwhistell, 1963).

Proxemics - using the eyes to send out messages of approval or cognition formation (Hall, 1959).

Blocking - sabotaging A's attempt to influence by undermining a decision after compliance (Mitchener & Suchner, 1972).

Invoking Status - stressing the distance between A and B (Mitchener & Suchner, 1972).

Vertical Aggression - threatening violence to produce fear in B (Greenberg, 1976).

Horizontal Aggression - attempting to produce guilt in B (Greenburg, 1976).

Rumour - a technique whereby an individual spreads misinformation concerning either A or B (Cartwright, 1959).

Effects of Power Use

Effects of power use - either reactions or counter-reactions produced in B or A (Clark, 1974).

Opportunity Costs - the foregone benefits of using a power base in some other fashion (Blau, 1967).

Transactional Cost - the cost of the resources spent by A in obtaining B's compliance (Jameson, 1971).

Monitoring Costs - the cost to A of observing B when B's compliance is dependent on A's presence (Mitchener and Suchner, 1972).

Investment Cost - the cost to A of tying up resources (Blau, 1967).

Direct Cost - the same as transactional cost.

The Social Influence Process Theories

The theories on social power can be grouped on a process - outcome dimension, those emphasizing the process of influence versus those emphasizing the outcome of influence (Kornberg & Perry, 1966). Field and exchange theory are process theories while a decision making theory of power is an outcome theory (Pollard and Mitchell, 1972).

The exception to this classification scheme is the work of those researchers who consider power from the perspective of an individual's need or drive rather than a process. It is necessary to consider this theory and related research, as the concept of power as a drive within an individual certainly relates to the concept of power management in teams. The intervention strategy chosen must consider the need for power in individuals if this research is assumed or found to be valid.

Operational Definitions of Power

The power motive theory, although not an actual social influence process theory, is considered briefly at the outset of this literature review. Only one aspect of the previously described model applies - that of operational definitions. As this is the first stage to be considered for all the theories the power motive theory is considered at this time.

McClelland (1975), Mowday (1978), Winter (1973), and Minton (1972) see power as a need of the individual which she carries from situation to situation. Minton (1972) suggests that this need is either for the purpose of accomplishing things or as an end in itself, a reward. The latter point received some indirect support in that Gavin and McPhail (1978) found that individuals who perceive themselves as powerful experienced this as satisfying. This was not tied directly to their need for power. However, this is fairly tentative support, only really corraborating the idea of power as rewarding.

Operationally defining the need for power was and is a difficult undertaking. There are a number of studies which attempt to measure the strength of the power motive in individuals. Uleman (1972), Veroff and Veroff (1972), and Winter (1967) have all created projective scoring systems for a power motive. There is little validity across these measurement systems or reliability within a given measurement system (Winter, 1973). Winter consequently developed some criteria which stablized the results with respect to reliability. Problems with validity have led to a hypothesis that at least two factors make up the power construct, need for power, and fear of, or avoidance of failure. This is certainly an area which needs further research. A possible approach might be to compare the results of Winter's (1973) power motive measure with standardized measures of the need to control (Edwards, 1953) or the harm-avoidance and dominance traits of the California Psychological Inventory (Gough, 1956).

Although the scoring systems are questionable, once they became available researchers became involved in the search for variables which related to the power need. Drinking (McLelland, Davis, Kalin, and Wanner, 1972), gender, status (McLelland, 1975), (Veroff and Veroff, 1972), self esteem (Bedian and Touliatos, 1978), internal locus of control (Minton, 1972), fear of failure (Atkinson, 1958), and heterosexuality (Winter, 1973) are all factors which seem to vary directly with need for power, although in some cases other variables must be present as well. For example, drinking is significant when combined with a low level of inhibition.

An interesting research question that occurs when these correlated variables are examined is, does a relationship exist between any base of power and an actual need for power? For example, if confidence (created by combining self esteem, internal locus of of control, and success) represented a perceived base of an individual team member, would it be safe to assume that this individual also had a need for power? This is a research question that might be addressed at a later time.

If it is assumed that a need for power may be operating in the individuals in a team who have more than their share of the observed power, it is necessary to design an intervention that continues to allow them to exercise power, but in a fashion that develops power in others. To the extent that the low power team members are assumed to be lacking in power it is hoped that the experiencing of more influence will result in Gavin and McPhail's (1978) perceived reward state.

A second approach to the study of power motive was in terms of arousal of the motive. McClelland (1975) demonstrated that need for power increases with drinking. He also found that the need for power increased in listeners to a charismatic leader making an inspirational speech. The use of drinking as a technique for increasing the need for power is not a feasible or particularly desirable route to follow in this study, although it has often been stated to the author during team building sessions that low visibility participants are much more voluble in social settings. The second method was a possible intervention technique that was considered and rejected because the high power individual identified in teams would not necessarily be charismatic. It is a technique, however, that it may be possible to use in other research.

Although dealing with the construct of need for power does provide some insight into intervention techniques, it does not address the more central question upon which any attempt to manage power rests. What is social power? What is influence? Social influence theories address the concept of power from the perspective of the power that is created in interaction rather than power as a motive. There are a myriad of definitions in the literature which make it necessary to define some key dimensions on which to sort them. The criteria selected are; global-specific, inferred-demonstrated, focus (A-AB-B), and qualitative-quantitative.

It was necessary to make judgements on which end of each continuum would be most satisfactory in terms of meeting the goals of the study. These goals are to choose a theoretical frame work which has enough validity that it would allow the author to operate from the basic premises of the theory and to distribute power more evenly in the group while reducing abuses of power.

The first dimension, global-specific, is concerned with the extent of behaviours included in the definition. Morgenthau's (1969) definition of power as:

> "anything that establishes and maintains the control of man over man. Thus power controls all social relationships which serve that end, from physical violence to the most subtle psychological ties by which one mind controls the other" (pp. 9)

is an example of a global definition. Kuhn (1963), Martin (1978), Salancik & Pfeffer (1977), Weber (1947) and Richardson, Dugan, Gray and Mayhew (1973) also tend to the global end of the continuum in their power definitions.

Cartwright (1959), a field theorist, defines power in a specific sense. The power of A over B with respect to a change from (x) to (y) at a specified time equals the maximum strength of any act which A can perform at that time. 'A' controls B if an act of A results in a combined force in B's life space in the direction which A intended. Even more specific is Nagel's (1968) outline for an adequate description of a power situation. Nagel includes the following elements in his description: a) the domain of power for each person; b) the range of power; d) the amount and direction of power; e) the means; and f) the cost of exercising power. Other specific definitions are provided by Thibaut and Kelley (1959), Dahl (1957), Blau (1967), Cohen (1959), Wolfe (1959) and French and Raven (1959).

Field theory, exchange theory and SEU theory all possess specific definitions. It is obvious that a definition to be meaningful in an operational sense must be reasonably specific. Thus, only theories which take this approach are considered viable.

The second key dimension to the definition of power, inferred -- exercised, is bipolar in nature. Dahl (1957) states that the power of A over B is a function of the difference between the probability of B's performing a certain act after A has made a certain intervention versus the probability of B's performing this act without A's intervention. There are several other researchers who insist on expression of intent by A for power to be attributed or influence to occur (Richardson et al, 1973, Cartwright 1959, Tannenbaum 1968, and Gamson 1968).

Martin (1978) defines power as the potential of one person to have an effect on the attitudes, perceptions and/or behavior of another. Pollard (1974), Carlson (1978), Salancik and Pfeffer (1977) and Wolfe (1959) discuss power in terms of potential or neglect to mention that an action is required.

Attribution theory would support the concept of perceived or potential power as being valid (Kaplowitz, 1978). The author also takes this stand. It is illogical to conclude that people do not behave on the basis of expectations as readily as when provoked by an act. The manager rising when the vice president comes into the room is surely an example of expectation of rebuke for failure to do so or expectation of a smile for having done so, rather than a direct influence attempt.

The field theory of both Lewin (1951) and Cartwright (1959) includes the concept of experiencing intent in the operational definition. Exchange theory is not as clear in expressing what A must do and could be left open to interpretation. For example, Thibaut and Kelley (1959) talk about the ability of A to determine rewards and costs for B without saying whether this is actual or perceived. Subjective expected utility (SEU) theory does imply some action on the part of A as Pollard and Mitchell (1972) define power as A's ability to convince B that A's alternatives have the greatest SEU.

An area for further research could be to design an experiment that would determine whether A needs to act for B to be influenced or whether B can act on the basis of her expectations of A's desires. Presumably previous experience of A in similar situations, heresay concerning A, or previous experience with some other A in the same situation are all cases with could provoke a set of expectations in B re A's intentions and wishes. All of these could be tested in a laboratory setting.

Focus was another dimension that needed consideration in terms of operationally defining power. Weber (1947) focuses on A when he defines power as the probability that A will be able to carry out his own will despite resistance. Minton (1972), Cohen (1959), Heider (1958), and Clary and Luke (1975) also focus on A.

Gamson (1974) focuses on B when he states that it is necessary to define influence in terms of net effect on the target. Others with this focus are Dahl (1957), March (1955), Deutsch (1973), and Emerson (1962).

Mitchener, Lawler and Bacharach (1973) define both A's power and B's power by the following formula:

A power = + damage + probability - blocking - retaliation

B power = - damage - probability + blocking + retaliation

Mitchener and Suchner (1972), Pollard and Mitchell (1972) and Lewin (1951) have comprehensive definitions incorporating both A and B.

The focus area is also bipolar in terms of whether the individual grants power to others (Martin and Sims, 1971), or seizes power for herself. Both perspectives have made assumptions about the nature of power. The former assumes that B ultimately chooses her behavior, which supports a view of people as creatures of free will. The latter assumption is built more on the idea that people are interdependent, which allows any A an opportunity to capitalize on this interdependency. These are two separate philisophical viewpoints. The easiest position to adopt at this time is a combination of the two which results in A's power being dependent on both A and B.

Field theory, exchange theory and decision (SEU) theory all take both A and B into consideration. Both

Lewin (1951) and Cartwright (1959) focus on A and B, Lewin in terms of a ratio of A's force to B's resistance, Cartwright in terms of the difference measure between A's force and B's resistance. Exchange theory focuses on the power of A but in terms of the rewards and costs that A can mediate for B (Thibaut and Kelley 1959, Blau, 1967 and Homans, 1961). Decision theory focuses on the difference between the SEU's if B performs A's act versus the SEU of any of the alternative acts available to B.

The fourth dimension, qualitative versus quantitative, has definitions sorted out along its length. Some definitions are purely qualitative 'yes, you have power' or 'no, you don't have power'. For example, Pfeffer, Salancik and Leblebici (1976) state that power is simply the ability to get things done the way one wants. If you meet the definition you have power, if you don't satisfy the definition, you don't have power (Minton, 1972, Morgenthau, 1969, and Pollard, 1974).

Other definitions attempt to quantify the amount of power. Pollard and Mitchell's (1972) decision theory definition states that influence has occurred if:

$$(\text{SEU } X(A) - \text{SEU } X_i(A)) > 0$$

Where SEU X(A) is the SEU of A's alternative and SEU $X_i(A)$ is the mean SEU of all other alternatives. The mathematical definitions are further divided on what aspect of power they are measuring; field theory's resultant force (Lewin, 1951), exchange theory's range (Thibaut and

Kelley, 1959), Dahl's (1961) probability differences and the importance of changes defined by Tannenbaum (1968).

A problem that arises on examining the quantifiable definitions is that they are not quantifiable in the sense that the variables are not measurable. For example, one cannot determine a team member's SEU for a given event except in a highly structured laboratory setting (such as Slovic and Lichtenstein's (1968) risk game) where probabilities are given.

Similarly one cannot compute Cartwright's (1959) forces for the range of values and needs which exchange theory mediates. Ultimately all that is currently available to the researcher is behavior and individual perceptions of power of self and others. Hence, the focus of the power measurement in this research was on observable behaviors and analysis by team members. There is further discussion of the available measures for assessing both power and power bases in the selected approach section of this dissertation.

One final distinction that needs to be made at the definitional stage is the difference between power and influence. Blau (1967), an exchange theorist, defines power in terms of influence, power is the result of mediating rewards and costs which represent the influencing process. Tedeschi and Bonoma (1972) have a radically different concept in that they perceive power as exhibited and influence as potential. The reverse is the perception of Minton (1972). Lewin (1951) does not talk about influence per se; however, it may correspond to his concept of inducing field. In other words, power reflects areas where A can arouse existing forces in B; whereas, influence reflects areas where one must overcome resistance in B. The SEU model of Pollard and Mitchell (1972) does not sort out the influence/power question. They appear to use power to reflect both the process and the outcome.

Influence is both a noun and a verb, whereas power is a noun. For the purpose of this study, power is seen as an outcome; influence is seen as a process. An individual has power if the individual is able to influence the outcomes.

Environmental Factors

The second stage in understanding the theory around social influence processes involves an examination of the environmental factors which either spark the influence attempt or relate it to the selection of an influence factor. As mentioned previously, organizations, or in this case teams, create power; for example, the power to make decisions, to accomplish goals and to administer resources. As Blau (1967) stated, the organization of a collective effort mobilizes power. Scarcity, uncertainty, discontent (Gamson 1968), structure, the lack of structure (Michener and Burt, 1977), territoriality (Ellis, 1974), and physical and social arrangements (Michener and Suchner, 1972) are all situations which may create an opportunity for someone to attempt to influence. The person with the scarce resources, the person with skills, the person with the initiative, the person with the role, the person who feels threatened, or the person with access are all potential influencers.

Tradition, a change in life role, the upsetting of B's social reality (McLeod and Chaffee, 1972), involvement in an intense conflict (Michener and Suchner, 1972), and a resource or skill deficit to achieve a needed goal (Blau, 1967), all produce situations in which an individual is more readily influenced. A life role change will make the individual particularly vulnerable as confirmation of social reality is a transsituational need (Walster and Abraham, 1972). Every individual establishes the reality of her perception of her environment through checking with other members of the environment. Thus to the extent that an individual finds herself in a new role or a new environment, she must quickly establish the realities to become comfortable.

The only theory that deals in any depth with environmental factors is exchange theory. The environmental factors which influence the nature and rate of exchange transactions in a group are:

1) role sets;
2) total exchange rate;
3) coalitions of members;
4) differences in power between members;

5) the wider ramifications of particular exchange; and

6) the availability of resources (Blau, 1967).

There is support in the literature for at least three of the environmental factors stated under exchange theory: role set, coalitions of members, and exchange rate. This support is generally found in literature unrelated to exchange theory. The research on legitimate power and expert power lends some support to role set (Raven and Kruglahski, 1970, Michener and Suchner, 1972, Milgram, 1963, and Hovland, Janis, and Kelley, 1953). Ashe's (1956) study on the effect of peer pressure on an individual's perception of the length of the line lend tentative support to the effect of coalitions on the power process. Blau (1967), Swensen (1973), and Kipnis (1976) stated that one can exhaust one's base by a high rate of exchange. This is essentially a transfer of the resource.

'SEU' theory is presumably dealing with the environment when B looks at other alternatives available to her. These affect the influence process in the sense that if they are more salient B will select an alternative SEU as opposed to the one that A is pushing.

Although looking at environmental factors complicates an already complex issue, no theory would really be comprehensive if it ignored this variable. The present study is not going to focus on environmental factors but is making the assumption that the environments involved are similar.

Where there are differences such as teams of managers, or teams of specialists versus teams of peers these will be discussed, but in a sense of a descriptive rather than statistical analysis.

Bases of Power

The next aspect of the influence process to be examined is the source of the attempt -- who gets the power and how or why this takes place. As Laswell and Kaplan (1950) noted, power is distributive, and the aim of the researcher is to determine how and on what basis it is distributed. French and Raven's (1959) efforts on defining the bases of an individual's social power have stirred investigators for twenty years.

Their original bases of social power were reward, coercion, expertise, legitimate and referent. Another base which has emerged since the early work of French and Raven is an information base, which is now accepted in the typology of French and Raven (Raven, 1974).

Resource power is a base which has achieved wide recognition partly because of its centrality to exchange theory and to decision theory approaches to power (Laswell and Kaplan 1950, Dahl 1961, Morgenthau 1969, Tedeschi and Bonoma 1972, Levinger 1959, Homans 1961, and Blau 1967).

Verbal fluency might be considered as a sub-group of expertise which has been separated out by Mansbridge (1973). This seem to be a reasonable distinction as expertise focuses on the validity of the message, whereas verbal focuses on the manner of presentation.

The base in field theory must correspond to either the power field or the inducing field, whichever applies. Other than these, neither Lewin (1951) nor Cartwright (1959) goes into any description of bases.

The bases of powers in exchange theory are the resources; personal - expertise, skills, attractiveness (Blau, 1967) or situational - manpower, possessions, or information (Emerson, 1962). Laswell and Kaplan (1950) in an earlier attempt to define bases broke them into scope values and base values. Scope values were defined as power, restraint, rectitude and affection and were to lead to A being able to meet the base values of wealth, well being, skill, and enlightenment for B. Although this is an interesting interpretation, the author prefers that of Blau (1967) and Emerson (1962).

In decision theory the bases of power which affect the subjective expected value (SEV) of any given alternative of A are the attraction, status, prestige, and esteem associated with A (Tedeschi, Schlenker, and Bonoma, 1973). The alternative itself is a resource, for example, information. This actually parallels the early work of Laswell and Kaplan (1950) discussed in the exchange theory approach and it is really only different in conceptualization, not in fact.

A method commonly used to analyse bases is to determine whether the base is independent, dependent on surveillance, or dependent without surveillance (Raven, 1974). This method was designed to assist the researcher to determine the likely response of B to the influence attempt. Independent influence has occurred if B experiences a cognitive shift in the direction of A's attempt and attaches this to the validity of the message rather than to A. Thus Raven (1974) would argue that information is an independent base.

Socially dependent influence with surveillance occurs if it is necessary for A to monitor B to obtain compliance. B would not produce these responses without A as B has not integrated the required response into her frame work (Raven, 1974). Threat is an example of a base that is dependent on surveillance.

Expertise is a base which meets the third criterion - dependent without surveillance. Expertise is originally dependent on the perception of A's characteristics but is subsequently incorporated into B's frame work. This is a viable model and is useful in determining whether it is necessary for A to monitor B to ensure compliance. However, the use of this method has resulted in both reward and coercion remaining as power bases, rather than tactics which can be associated with any power base. In terms of exchange theory, monitoring costs are considered in the effect on A of a given power attempt. This point will be elaborated and argued extensively in the selected approach section of this chapter.

The independent, dependent model would not really apply to decision theory as the individual chooses on the basis of the greatest SEU, so that one would not expect either monitoring or the question of dependent/independent to arise. Field theory makes no mention of this monitoring. Monitoring would be necessary, surely, in the case of an inducing field where A is not congruent with B's force field.

Relevant Research on Bases

There has been relevant research on bases which goes in two direction; the first is concerned with the attribution of a base, the other is concerned with determining what type of events or behaviours individuals relate to in attributing power.

> " The attribution process is essentially a matching between observed behaviours and categories or concepts supplied by past experience." (DeCharms, 1968, p. 283).

Thus, if B attributes expert power to A it is because she has a concept labelled expert, which includes the behaviour or characteristics of A. For example, Tedeschi (1973) demonstrated that the value system of the perceiver was the determining factor in whether violence was seen as aggression. The instigators in his study were labelled as aggressive, whether or not they were physical, whereas a violent defender was considered non aggressive.

The other way the attribution process occurs is a result of contingent events (Schopler and Layton, 1974). If B perceives that every time A speaks everyone sits up and listens, she may attribute legitimate or expert power to that individual.

A few studies have focussed on what type of events or behaviours individuals relate to when attributing power to others. Amount of participation was the variable which subjects weighted most heavily in attributing power in Lord's (1977) experiment. Jaffee and Lucas (1969) supported this finding in their research. They determined that relative amount of air time rather than relative number of decisions initiated was the basis on which leadership was attributed. Levinger (1959) found that individuals' attribution of power to themselves was based on their perception of relative resources -- initial attribution of power of other group members was based on what they said, later attribution on what they did. Trust is another variable which influences the attribution process (Gamson, 1968).

This research on attribution has contributed heavily to the author's approach to the power management problem. Two major concepts have evolved from this discussion. The first relates to general power measurement. Variables such as air time, initiations, relative number of decisions initiated, are all considered as possible measures of power in the selected approach to power management section. The second idea that evolved from this discussion was the notion that power bases are attributed on the basis of tactics employed. This also fits with the perception of exchange theory, where A is seen as possessing resources which she uses to affect outcomes for B. There should be some relationship therefore between the perceived (the attributed) base and the behaviour -- tactic employed. This is a research question which this thesis examines.

Target Characteristics

Target characteristics represent the next variable in the influence process. Target characteristics can be sorted into three categories: a) characteristics that determine likelihood of resistance, b) characteristics relating to susceptibility of influence, c) factors which determine the nature of the tactic employed.

Some of the target characteristics of B which have been found to increase the likelihood of A's being met with resistance are as follows:

a. sex -- males are more likely to resist than females (Aries, 1976);

b. internal locus of control -- 'B's' who believe they control their own fate - (James, Woodruff, and Warren, 1965);

c. low self-esteem -- these B's resist because they think they can manage, but are not realistic in assessing their capabilities. (Tedeschi and Lindskold, 1976);

d. cognitive complexity - B's with complex reasoning patterns are more critical and are less susceptible (Streufert and Fromkin, 1972);

e. independence -- 'A's' are unable to activate the goal or need in B (Michener and Suchner, 1972);

f. high comparison level -- if B has a high comparison level relative to other group members then B will have high expectations of rewards and position and will resist any influence attempt which does not correspond to this expectation (Tedeschi and Bonoma, 1972).

The reverse of the above are target characteristics which will increase the likelihood of B's complying with A. For example, in the case of sex, females are more likely to conform (Crutchfield, 1955). In addition, affection (Byrne 1969) and trust (Riker, 1974) are two variables which also predict susceptibility to influence attempts. If B likes A then B anticipates rewards; if B is more trusting then she is more easily influenced. Two universal target characteristics that increase susceptibility to influence are need for approval and need to be right (need for confirmation of social reality).

The third consideration in terms of a target's susceptibility to influence is the nature of B's connection to the system in which A is trying to influence. If the connection is ideological, then A will be able to influence B providing that A's influence attempt is consistent with the value system which B accepts as part of the ideology of the system. If B's connection is by virtue of role integration, then B will only be influenced if B sees A's attempt as appealing to B's role responsibilities, or to B's expectations of the nature of the role. If B's connection on the other hand is normative, B will accept an influence attempt which fits within her perception of the system's legitimate scope (Kelman, 1974).

Although field theory does not specifically mention target characteristics it is apparent that B's power field and inducing fields could include any of the above mentioned variables. For example, in terms of resistance if B's induced field has a need for independence and A is pushing against this, then resistance would result. The converse would result if A's attempt was to create a force for independent thinking and action. Kelman's concept can also be explained using field theory.

An exchange theory only takes into account what A has that B needs or needs to avoid. Descriptions of individuals by dimensions such as low comparison level (LCL) and simple cognitive processes do not really fit the theory. In an exchange theory, such individuals, rather than being more susceptible to influence, would be less as they have nothing to exchange. The internal locus of control individual is also slightly inconsistent with exchange theory.

This would go back to the philosophical question of humans as the choosers or as interdependent entities. Sex would also have to be defined in terms of a framework of needs as opposed to a characteristic.

SEU theory is more able to incorporate elements like high comparison levels (HCL), low comparison level (LCL), cognitive complexity and even internal locus of control. These factors would all affect the SEU's B placed on an outcome.

This research effectively ignored target characteristics because it was looking at a team member as an influencer rather than as a recipient. This was done because the object was to balance power, make all team members equally powerful, rather than focus on the recipient. It is interesting to note, however, that for all members to be equally powerful in the team, all members have to be equally receptive to influence from others. Another approach to this study could have been to deal from the target perspective. Intervention in this case would have had to focus on how to make less influential team members more resistant to power attempts from powerful team members. This approach may have occurred inadvertantly in the abuse reduction section of the research, where B's were asked to point out where A's were using abusive tactics. This could be considered a case of increasing B's resistance to A's influence attempts in a fairly structured way, although it was not the reason that this intervention was selected.

Tactics

A survey of the tactics or means A chooses or B chooses to influence and counter influence respectively is the next phase in understanding the influence process. The literature on means is sporadic and poorly organized. A few authors (Tedeschi and Lindskold, 1976) refer back to the power bases as a framework for determining the nature of the tactics. Information control, for example, results in recommendation, persuasion and warnings; reinforcement control results in threats and inducements. This is consistent with an exchange theory definition of power. Another approach which is consistent with this perspective is that of Parsons (1963) who looked at tactics in terms of rewards and punishments or persuasion and coercion. Here the tactics are related to trying to change the perceived costs and benefits by moving the demand and supply curves (Mitchener and Suchner, 1972). Tactics for B, therefore include feigning withdrawal of demand and feigning interest in alternatives. Tactics for A pertain to attempting to project an increase in the value of A's alternatives and changing B's perception of the available alternatives.

With Kelman's (1974) model, a different set of tactics emerge. These are activation of commitments, information control, and orders, threats or promises. Activation of commitments is a typical means for A to use with ideologically integrated B's. This mode would involve the use of "ought", which is really a tacit promise or warning invoking the individual's value system. "You really ought to donate your blood to the Red Cross" invokes the value system of helping one's fellow man and tacitly implies that you will be blessed or damned depending or your choice.

A role integrated B would be most responsive to an information related tactic. "Previous managers have always vetoed overtime" would be an example of this type. Again it is possible to perceive this as tacit warning or promise.

With the normatively integrated B the influence tactics would involve orders, commands, threats or promises while underlining the individual's or the system's right to expect a certain behaviour. "You knew when you signed on that 5 hours overtime without pay was standard policy. Either start showing up or find the gate." This example is a combination tactic which first raises commitments by defining the system's legitimate power over the individual which is then followed by threatening. All of the examples, related to Kelman's policy, could be included in the exchange theory approach.

Ecological control is a tactic defined by Tedeschi and Lindskold (1976). Cue control is an example of this technique. This is done by eliciting stimuli which produce a habit response which is the behaviour A wants. Non decision making is another tactic which forces B to continue to elicit a behaviour which A desires and maintains a status quo for A. Both of these are more consistent with field theory than exchange theory, as they both deal with existing forces within an individual.

Manipulation is another technique, and can be used with any base. For example, it can involve the use of edited information, slanted expertise, illegitimate authority, and ingratiation. As a device, it fits all three theories. In field theory it would be used to create a force in B, in exchange theory it would be used to affect B's perception of either the supply or the demand of a given resource, and in decision theory it would be used to affect the subjective expected utiltity B placed on an alternative.

In the definitional list of tactics given at the beginning of this chapter there were eleven other tactics mentioned which are not directly associated with a given theory in the literature. Upon analysis, however, all of them can logically be associated with at least one of the three theories. Coalitions, gatekeeping, censoring, blocking, invoking status, creating of a debt, are all aimed at affecting the demand and supply curve of an exchange theory model. Approval/disapproval, bargaining, kinesics, proxemics, inclusion/exclusion, and promises or threats (Tedeschi and Lindskold, 1976) are all cases of direct rewards or punishment, which is also consistent with an exchange theory of the social influence process. Censoring and rumour are two techniques which can be used to affect the subjective expected utility of a given alternative. Vertical aggression and horizontal aggression are most consistent with the field theory approach, as they are aimed at producing a force in B.

Effects of Using Power on A and B

A final phase of the social influence process involves the effects of using power on both A and B. As Clark, (1974) noted power can not be exercised without inducing reaction or counter reaction. The effects on A are the benefits achieved by B's compliance plus the cost associated with the transaction. These two points would apply for all three theories. Benefits that have received support in the literature, while not being directly related to any theory, are a sense of feeling powerful (Hunt, 1972) and a sense of integration (Tannenbaum, 1968). Hunt's benefits relates back to the earlier work on power motive.

One of the costs to weigh in field theory terms, although not identified as such by either Lewin (1951) or Cartwright (1959) is the cost of creating a force in B to begin with. This would compare to the transactional or investment costs of the resources spent or invested by A in obtaining B's compliance in exchange theory (Gamson, 1974). A's power base may actually decline as a result of transactional cost. "You can have the corner office if you vote this down at the meeting." In this case, once the base is used it is gone.

Another cost of B's compliance, if the response is dependent on A, would be a monitoring cost (Michener and Suchner, 1972). This would apply to either field or exchange theory. To maintain credibility, the cost of carrying out a threat in the case of non-compliance is another cost to A (Schacter et al, 1954). This would apply to exchange theory and decision theory.

Another effect on A may be guilt. This will occur if the exchange is inequitable, as the total team would act as a reference group in evaluating the fairness of an exchange. In an equitable exchange process, everyone receives what she deserves; that is, the outcomes are appropriate to the inputs. If this exchange is inequitable, B or A will try to correct it or A will attempt to justify it (Walster and Abrahams, 1972). The final cost to A in exchange theory is opportunity cost. The consumption of any resource in a given direction always has to be compared to the benefits of consuming or investing that resource in another direction.

There was no discussion of effects in any of the literature surveyed that pertained to decision theory (Pollard and Mitchell, 1972, Harsanyi, 1962, and Tedeschi, Schlenker and Bonoma, 1973). As this theory, however is really a mathematical refinement of exchange theory, the facts should be interchangeable.

The effects of an influence attempt on B vary depending on whether B complies or does not comply and on the nature of the compliance. If B is convinced cognitively that A is correct and changes her perception, attitude, belief or behaviour, then the results on B are positive. B feels cooperative and satisfied since either B's personal or group goals are attained (Walster and Abrahams, 1972). In addition, B may feel integrated into the system. This would be the case for all three theories.

If, conversely, the compliance is merely public conformity and the ideal behaviour or attitude is rejected privately, the results are different. Although B will still feel integrated, there is a cost in loss of self esteem (Tedeschi and Lindskold, 1976). This fits both exchange theory and decision theory as loss of self esteem may still be the best possible exchange.

When B does not comply with A's attempt a variety of results are possible for B. B may withdraw (Cohen, 1959), attack (Lusch, 1978), resist (Clark, 1974), retaliate, exhibit defensiveness (Michener and Suchner, 1972), or give up (Swensen, 1973). Withdrawing is consistent with exchange and SEU theory which would state that if an exchange does not suit an individual, she will not engage in it. The other reactions are more consistent with field theory, as they all express one form of resistance or another.

Other reactions involve feelings such as defiance or resentment (Clark 1974), defensiveness (Michener and Suchner, 1972), ambivalence towards A (Swensen, 1973), distress (Lindskold and Bennett, 1973), powerlessness (Swensen, 1973), and futility and worry (Clark, 1974). Ambivalence is the only one consistent with exchange and decision theory, resulting from the fact that A can mediate both high costs and high rewards. However, as Pruitt (1968) has noted, if the power has unused threat capability it will increase trust and consequently decrease ambivalance. Peculiarly, if punishment is anticipated A may not have to monitor B, because B will comply on the speculation of punishment for non-compliance. If coercion is used, however, it will increase the chance of internal rejection of the influence (Tedeschi, Schlenker and Lindskold, 1972). Therefore, it appears that although coercion is a low cost technique to A in terms of maintaining cost, it a high cost to A in terms of transaction cost. A will have to repeat her influence attempts every time she wants to do X, because B never integrates the behaviour or attitude. The other feelings are all more consistent with the field theory.

Summary of Power Motive Theory

Power motive theory considers power to be a need of individuals. As such it can be aroused by environmental factors and may consequently result in certain behaviours (tactics). Research has tended to focus on the defining and measuring of the power motive rather than the environmental factors, or tactics. Target characteristics and the effects of utilizing power are ignored. That team members may be motivated by a need for power is taken into consideration when selecting an intervention. The theory itself is rejected as the primary theory on which to base the study because it does not focus on the social influence process per se.

Summary of Field Theory

Field theory considers behaviours as the resultant of forces created within an individual. The power, therefore, is the production of resultant forces in B that are in a direction A desires (Cartwright, 1959, Lewin, 1951). Both A and B are included in the definition. Lewin (1951) measures A's powers as a ratio of A's force and B's resistance while Cartwright (1959) looks at the difference between A's force and B's resistance. This diferrence in approach is not of great significance as neither of these quantities is measurable at this time.

Lewin (1951) makes the distinction between changes due to forces which are imposed on the individual and changes which reflect directly the individual's own needs. The former are included in the inducing field, the latter in the power field. In the power field case, B's own needs are the motivators. Lewin further states that any form of influence which results in dependence will not be internalized. The inducing field is such a case. The implication is that if B's own need is conflicting with A's force then dependence will result.

The impact of the environment on power or the creation of power fields and induced fields is not really specified in the theory. Target effect, tactics, and effects of power usage on A and B are also inadequately dealt with in the literature. The author's conclusion is that the tactics selected would be aimed at arousing or suppressing needs in B. Bases would be determined by analyzing the major components, power and inducing fields. The effects on A would be transactional and opportunity costs, the effects on B would be positive or negative depending on whether a positive force or a resistant force was greater. More work needs to be done in all areas of field theory before it can be considered as a valid theory of the social influence process.

Summary of Exchange Theory

Exchange theory is based on the rewards and costs that A and B can mediate for each other. It takes an economic stance which describes people acting in a way which maximizes benefits and minimizes cost. The power of A, therefore, is the ability of A to impact the rewards and costs of B (Thibaut and Kelley, 1959, Blau, 1967, and Homans, 1961).

This process parallels economic theory with the supply curve representing A's power and the demand curve representing B's need. The intersection point represents the transaction point or actual rate of exchange. The assumption of the model is that B has complete knowledge of all the alternatives available to her. A point to note is that although B may not comply with A, this does not mean that A has no influence in relation to B, just that B's net cost benefit is less for this option than for some other one (Emerson, 1962).

The environmental factors which influence the nature and rate of the exchange transaction have been stated.

The bases of power in this theory are the resources that A possesses which B needs. Exchange theory bases are expended in use but can be invested to obtain more power. Not much is stated in exchange theory concerning B's characteristics other than in terms of the nature of the relationship. The dependency of B on A is directly proportional to the motivational investment B has in goals mediated by A and inversely proportional to the availabilty of those goals outside the A - B relationship. A and B are in a state of balance if reciprocal services are provided. Imbalance exists if B is unilaterally dependent on A. Targets hesitate to form relationships, consequently because of fear of dependency and fear of status imbalance (Blau, 1967). Those needs which are seen as affecting all individuals are anxiety reduction, admiration, and confirmation that their beliefs are correct.

Tactics are generally described in terms of rewards and punishments related to a resource base. Exchange theory underlines the fact that approval and disapproval are rewards and punishments related to B's intrinsic need for approval and A's attractiveness (Thibaut and Kelley, 1959). Other more manipulative tactics are self depreciation and frankness (to keep group members liking A), pressure to form integrative bonds (adopt new group norms), and tactics which are used to modify the prevailing balance of a relationship (Michener and Suchner 1972).

The effects on A and B are delineated in the exchange theory literature. An effort towards achieving a balance, if imbalance exists, is the major reaction to A from B. Conversely, if benefits outweigh hardships, a feeling of obligation results. This results in a striving towards reciprocity. If negative imbalance exists in the sense that B feels depressed, exploited, and angry then B will attempt to find benfits from other sources, use force, or may renounce benefits (Blau, 1967). 'A' may feel guilt in this case as well.

The exchange theory is reasonably comphrehensive but needs more research in the area of defining bases, tactics, and target characteristics. This research looks at bases, tactics, and combining the two.

Summary of Decision Theory

Decision theory has split in two directions. Political science decision theory concerns itself with the odds of B performing an act with or without A's attempt at influence. The difference then is the amount of influence A has (March, 1955, Dahl, 1957). The other branch of decision theory focuses on the individual as the maximizer. The individual is seen as selecting the alternative with the greatest SEU (Pollard and Mitchell, 1972). Power then becomes A's ability to convince B that A's alternatives have the greatest SEU. Both A and B are included in this definition, A in terms of affecting the expected value, B in terms of the utility. The SEU model does not require A to act, just B to assess that A may.

The impact of the environment in this model pertains to the SEU's that B places on other alternatives and the availability of other alternatives.

The bases of power which affect the SEV of any alternative of A's as defined by Tedeschi, Schlenker, and Bonoma (1973) are atraction, status, prestige, and esteem. The alternative itself is a resource, for example, expertise, information. This approach is similar to the one described by Laswell and Kaplan (1950) for exchange.

The target characteristics that impact on the influence process are those attitudes, values, needs, and goals of B which influence the SEU's B places on A's alternatives and B's SEV's. There is no discussion of tactics or effects in any of the literature. The tactics generally should be things that A does to increase the SEU's of the alternatives that she is offering and to decrease the SEU's of other alternatives in B's environment. The effects on B would include disappointment, puzzlement, if her anticipated expectation of the SEU's did not work out. This would result in re-evaluation of both the probabilities and the utilities placed on these alternatives. Other effects on B might be for her to withdraw, or minimize the need for, or the value of, an alternative presented by A.

THE SELECTED APPROACH TO THE POWER MANAGEMENT PROBLEM

Based on the foregoing theories and discussion of a) operational definitions of power, b) environmental factors, c) bases of power, d) target characteristics, e) tactics, and f) effects of influence attempts on A and B, this research intends to study the question of how to intervene in a team situation so as to ensure effective management of power. This section incorporates the fourth factor, the hypotheses and conclusions arrived at during the original project and blends this information with hypotheses and conclusions from the literature review. The steps described in this section lead up to a statement of the hypotheses and the method.

As stated in the introduction and literature review, for the benefits of team to be realized, power must be effectively managed. In this study, power management is defined as balancing the influence of team members and reducing the use of abusive tactics which result in dependent compliance or coercion of other team members. As previously noted, several steps are necessary to assure power management. The first is to adopt and to justify a particular theoretical stance. Within the chosen theoretical framework, the second step is to operationally define power and power bases. The third step is to operationally define power balance. The fourth is to define power tactics consistent with the operational definition of power bases and to identify abusive tactics. The fifth is to select intervention strategies which are based on social learning theory and which will help people to manage power balance and to correct power abuse.

Theory and Justification

The exchange theory approach of Blau (1967), Thibaut and Kelley (1959), Homans (1961) and Emerson (1962) was selected as the most useful theory of power for the present research. The theory was adopted for the following reasons:

1) process model
2) comprehensiveness
3) ability to measure
4) works in organizational settings
5) works in laboratory settings.

Reason 1

As this research was concerned with the process of power management, it made more sense to select a process rather than an outcome oriented model. The terms and definitions encompassed by exchange theory, such as cost and reward, more closely fit an observational exploration of the bases of power than those of other theories which focus on internal forces or evaluations. Thus, according to exchange theory, power is a result of either imposing or threatening to impose negative sanctions or of monopolizing a needed service or a need satisfier (Blau, 1967). At a more basic level, exchanges are initially based on a need for approval, so that gaining approval may also be considered a reason for complying.

Reason 2

As noted in the literature review, exchange theory is more inclusive of the necessary components of a theory of power: an operational definition of power is included (although as discussed later in this section it presents some measurement problems); environmental factors are included; bases of power are identified by the operational definition of power itself; target characteristics, tactics and effects are all inherent in the theory. Neither the decision theory nor the field theory are as comprehensive.

Reason 3

The author considered the SEU theory of Harsanyi (1962)and Pollard and Mitchell (1972) to be a sophisticated version of exchange theory. SEU theory delves into the actual weighing of costs and benefits by B as well as the weighing of the probability of outcomes. The SEU model, however, presents severe measurement problems in the field setting and as Kuhn (1962) has argued,

> "The scientist unlike the engineer need not choose problems on the basis of urgency and without regard to the tools available. The scientist needs to concentrate his attention on problems he has good reason to believe he will be able to solve....By making simplifying assumptions and skirting what appear to be insoluble technical problems associated with measuring SEU, much can

be learned about the social influence process" (p. 25).

Pollard (1974) was also confronted by this problem. It is hoped that by showing some support for the more elementary exchange theory components, this work will encourage researchers in more controlled settings to search for decision theory measurement tools which will have wider application.

Reason 4

Organizational studies which support an exchange theory model are those of Salancik and Pfeffer (1977), Kotter (1978), and Pettigrew (1972). Salancik and Pfeffer (1977) found that subunits which could control scarce resources became the most powerful. Kotter (1978) found that individuals move to jobs where their resource base guarantees their power. Pettigrew (1972) found that information exchange allowed an individual to maintain control of a computer contract decision.

The exchange theory approach is consistent with Kelman's (1974) prerequisite for influence to occur as well. He outlines a three stage process:

1. A goal important to B must be activated.
2. B sees A as being relevant to goal attainment.
3. A's influence attempt must clearly define or illustrate the preferable alternative.

Exchange theory focuses on both the target (needs) and the source (base).

Reason 5

In laboratory settings there is also support for an exchange theory of social influence. Tannenbaum and Smith (1968) found that perceived influence was more closely related to successfully exercised expert influence than to the label of expert. Gamson (1974) noted that subjects who were not endorsed as legitimate authorities would not attempt to influence at all even when they were failing. Thibaut and Kelley (1959), Lott and Lott (1960) and Blau (1967) all found that attraction toward A is a positive linear function of the proportion of rewards received and expected. Bacharach and Baratz (1963) found that if B knows what A wants, and if punishment cost is greater than conformity cost, B will comply. Tedeschi (1973) demonstrated that influence attempts were related directly to the value and the probability of rewards and Michener and Burt (1977) found they related inversely to the value and probability of punishment. All of the above studies offer support for or are consistent with a cost-benefit model of influence.

The major stumbling block to an exchange theory perception of social influence has been the fact that reward and coercion were considered to be power bases by many researchers in the area of power. Exchange theory in fact does not consider these as bases but as means or effects of power use.

Exchange theory implies that all bases must have reward and punishment attributes. Hovland, Janis and Kelly (1953), Laswell and Kaplan (1950), Martin and Sims (1971), Tedeschi (1973) and Gamson (1968) have all contended that French and Raven's reward and coercion were not bases of power but modes or tactics of influence. Martin and Sims (1971) stated that the skills of winning power are at the same time the method of employing it as a medium of control.

It is the contention here that the reason other studies found reward and coercion as bases was that they designed their studies and consequently their items on this premise. Projective techniques were not used. Subjects typically selected items which had already been labelled as to base association. For example, "I sometimes do what the counsellor says in order to get something I want (reward) and I sometimes have to go along to avoid trouble (coercion)" (Jamieson, 1971). A reanalysis of these items could support the present viewpoint that reward and punishment are means or effects rather than bases. The present research will attempt to support this statement. An open-ended device will be used to identify perceived bases of power to attempt to correct the bias of earlier research.

Operational Definition of Power

The second step to better power management is to determine what power is and what gives team members power. Given the exchange theory of power, an operational definition of power is "A has power to influence B's behavior through his ability to manipulate the rewards and costs, or positive and negative values that B experiences in exchange for the desired behavior on the part of B." (Pollard and Mitchell, 1972). This definition has been expanded to incorporate the words 'actual' or 'perceived' in front of 'ability', as studies by Michener, Lawler, Bacharach (1973) and Nagel (1968) have demonstrated that people do comply on the basis of expectations and perceptions. In addition, the operational definition of power has been expanded to include not only A's ability to influence B, but B's awareness of being influenced and B's ability to attach a label to A's power base. This change was based on Pfeffer and Salancik's (1976) finding that there was high level of agreement across subjects on identifying the power holders.

Consistent with the foregoing operational definition of power is the concept that reward and coercion are implicit in every power base and may even be the essence of every power base, rather than two separate sources of power (Swensen, 1973). Including reward and cost in the operational definition of power should increase the understanding of the process of influencing, thereby helping with power management.

Following the above operational definition of power, an operational definition of a power base (X) is:

> 'A' possesses X power if A is seen as being able to provide or withhold X when others value or need it, or to use X in such a fashion as to result in B

performing some act A desires.

Popularity (Mansbridge, 1973), resources (Levinger, 1959) information (Mansbridge, 1973) and expertise (Martin, 1978) have all been defined previously by authors using this format. Only power bases which satisfy this definition should be identified. Reward and punishment should not be identified as separate bases.

From the perspective of the present study, power exists in the team because of the decision-making responsibility of the teams (Michener and Burt, 1977). Power is created because individuals are trying to satisfy their needs while working in the group. Power bases are established, therefore, based on dependencies created around the needs of both the individual group members and the group itself.

To the extent that power exists because of the needs of the group and the needs of individuals in the group, two different sets of bases of power should emerge. To the extent that the group goals are clear a consistent set of bases pertaining to group goals should emerge across the team. Individuals, on the other hand, may each have a unique set of bases. Because the primary reason for an individual's being a team member is the achievement of group goals, those bases which are related to the attainment of group goals should be considered as more important by the individual than those which relate to her individual needs. Thus individuals who are perceived to be the most powerful in the group should correspond to the observed power distribution in the group.

Correspondingly, legitimate power should be a non-existent power base in the team as the power to evaluate for promotions and dismissals rest with the whole team. Consensus decision making also strips the link-pins of a great deal of the traditional authority that went with a supervisory role.

Power Balance

The third step in the study is to examine the question of power balance. It was not possible to derive this directly from the definition of power. In a field study, it would have involved the ability to measure exchanges between individuals, which would have required full awareness of individual's needs and of what was being exchanged.

Consequently, the literature was searched for some indication of power that might show that an exchange was taking place or that influence had occurred. Two approaches to power measurement emerged: a) paper and pencil questionnaires, scales and graphs; and b) behavioural analysis.

In the first set of techniques, a variety of measures exist. Some assess need for power, some assess own perception of power while others assess other perception of power; some assess total power or influence and others assess bases. An example of this approach is Phillips' (1968) competence measure. Other authors of paper and pencil techniques are Rotter (1966), McClelland (1975), Baldwin

(1974), Smith and Jones (1968), Tagliere (1973) and Kinkade (1974).

Behavioural analysis received impetus from the extensive work of Bales (1970). Bales measured influence by frequency counts of certain behaviors, initiations, attention received, air time, and moderation of discussion. Other researches who use behavioral analysis are Richardson et al. (1973), Lord (1977), Archer (1974), Kotter (1978), Rose (1967), French and Snyder (1959), and Stewart (1969).

Power balance has been measured in the literature in many ways. Several variables have been sought as power balance is not seen as a unitary construct (Marwell and Schmitt, 1967, Giffen, 1967, and Galinksy, Rosen and Thomas, 1973).

Richardson, Duggan, Gray and Mayhew, (1973) determined power by the relative number of compliances between members. Others have used scales such as a semantic differential (Michener, Lawler, Bacharach, 1973). The research around air time has been more extensive than some other measures and has produced a fair amount of support. Logically it follows that if members of a group tend, over time, to focus on one or two individuals in the group, those indivduals will have the greatest likelihood of being heard and listened to. In addition those team members will have a greater opportunity for proposing their alternatives and asserting their points of view. Thus air time has been selected as one measure of power balance.

A second measure of power is the number of times A successfully interrupts. Bales (1970) found that who interrupted whom was indicative of the power hierarchy. This has face validity in that an interruption by A indicates that her status is greater than B's, or that A has more right to speak than B. Thus number of interruptions should be a loose indicator of power. Using the same logic, one can include unsuccessful interruptions in this measure. If A attempts to interrupt it is at least her perception, even if she fails, that she has a greater contribution to make or more right to speak than B.

Relative frequency of initiations was another selected power indicator. Initiations have achieved a fair amount of support in the literature and are one of the more common indices of power (Bales 1970, Archer 1974, Lord 1977, French and Snyder, 1959). In terms of face validity initiations perform much like air time. The more alternatives A suggests, or the more processes she initiates, the greater the probability that her ideas will be followed, or her approach selected.

A fourth indicator selected was the relative number of decisions initiated: Decisions ultimately are a large part of power. This approach has been used by French and Snyder (1959) and Richardson et al. (1973). The latter focused on percentage compliance of A to B as compared to percentage compliance of B to A. If A is the initiator of what becomes a decision all other team members must have complied since they work on a consensus process. Thus relative frequency of decisions initiated includes the concept that all other team members have complied.

Two additional measures which were not found in the literature were relative average speech length and relative frequency of decisions. The same argument used to justify relative air time was considered to apply to speech length. Relative frequency of decisions was measured as the frequency of decisions divided by the frequency of initiations. Neither initiations or decisions (if treated separately) takes into account the aspect of the number of attempts on A's part to influence B. If A always gets her way, and B only gets her way fifty percent of the time surely this is part of the construct of power. In exchange theory terms it suggests that A's power base is a scarcer resource than B's.

These six measures (air time, average speech length, interruptions, initiations, decisions, and the ratio of decisions to initiations) were combined in a weighted fashion which reflected the strength of the literature supporting the measure and were used as an overall measure of observed power. It was predicted that this measure would correspond closely to the power figures actually identified in a group and to their relative strength as determined by team consensus.

The balance measures ultimately used were the four key measures listed above; air time, interruption, initiation, and decisions, plus a measure of constructive uses of power. A constructive use of power was defined in the context of exchange theory and the operational definition of power base described earlier. A constructive use of power is any tactic employed in which A uses her base to reward B; for example, providing information or expertise when needed.

Although this technique has not been used as exactly or as methodically by other researchers, it is consistent with the theoretical approach to exchange theory.

All of these measures were treated in a relative fashion. A team member's power, therefore, became the amount that she possessed relative to the total power available to the team based on a summation of each of the five indicators. The balance (or imbalance) was determined by considering the total deviations of each team member from the average. Zero deviation would mean that each member had 1/11 of the total power available in a team of eleven members. For purposes of comparing individuals and comparing groups, certain transformations were necessary, as group size affects total possible deviance. The larger the number, once transferred, the greater the deviation. Although there is no explicit support for this concept in the literature, as long as the assumptions governing the choice of indicators hold, however, it appears to be a logical approach to measuring power balance.

Power Tactics

A fourth step to better power management is to examine tactics. Abusive tactics per se are not defined in the exchange theory literature other than in the sense of power corrupting (Gamson, 1968). As stated in the literature review, in a team environment the use of any tactic which results in dependent compliance or in coercion, rather than consensus or resolution, would be perceived theoretically as power abuse. This is an extreme postion and perhaps too idealistic for early work in the area of power management.

Consistent with exchange theory this dissertation uses a typology of power tactics in an attempt to clarify and expand the reader's understanding of the social influence process. This typology is as follows:

Base	Direct Reward	Direct Abuse	Indirect Abuse
Base X	Providing X when needed	Withholding X when needed	Using X inaccurately
			Using X to punish
			Using X to gain influence outside of X's range

The tactics were also measured using behavioral analysis. The definition of the primary tactics were constructed using the bases identified in the literature which were consistent with the exchange theory framework.

Other tactics which might derive less directly from having a base were included. An example of this would be "a put down" or "ridicule". These could be secondary tactics which evolve from a base such as expertise or verbal fluency. Definition of these secondary tactics can be found in Appendix A as well. Although this type of link-up to bases has not been done in the literature, most of the tactics mentioned are described in the literature (Tedeschi and Lindskold, 1976, Parsons, 1963, Michener and Suchner, 1972, Gamson, 1968, and Kipnis, 1976). Lord (1977) did an excellent job of listing what he called leadership behaviours, such things as providing alternatives, facilitating conflicts, initiating, and clarification. These are easily tied to power bases such as expertise, processing skill, energy and verbal skills respectively.

The abusive tactics listed in Appendix A were the ones chosen for use in measuring abuse reduction. Support for this typology will be sought in the proposed research.

Interventions for Power Management

The fifth phase of the research focuses on an intervention that may correct power abuse and an intervention that hopefully will tend to equalize power balance. As Clark (1971) expressed this, the problem for psychologists is to understand and control the tendencies of those having access to vast resources to abuse it rather than use it in a framework of love, kindness and empathy. Also as Berle (1967) noted, power and its exercise are essential to survival; therefore attempts to condemn, forbid or eliminate it are shallow and irrelevant. Both of these points are relevant to interventions attempting to change aspects of a group's social influence processes. It is not a matter of elimination, but redistribution. It is not a matter of forbidding, but rather of a more facilitative use of A's power.

There have been a few organizational studies where researchers have been able to increase employee's perception of power. Gavin and McPhail (1978), by creating a more participative environment with a management and employee group at a university, were able to increase workers' perception of their power. In a subsequent study they were also able to manipulate referent power of individuals in a group (Gavin and McPhail, 1979). Team member participation is the operating principle of the existing teams but has not resulted in balance or in reduction of abuses.

Although facilitators in organizational development environments have usually learned their techniques by trial and error, some of the classic, standard intervention techniques adopted by them have their roots in psychological research. For example, "feedback", a method of intervening whereby an individual is provided with information in a non-evaluative fashion about the nature of her behaviour, can be supported by both cognitive learning theorists and by behaviour modification technqiues such as those advocated by Rimm and Masters (1974) and Sarason (1973). Other techniques used by facilitators are 'suggesting alternative behaviours' and 'modelling other behaviours' for team members. These are also behaviour modification techniques (Bandura, 1969).

The methods proposed to deal with both power imbalance and power abuse have their roots in behavioural models of learning--punishment theory and behaviour modification. First, balance will be dealt with using a modelling technique to teach high power individuals to use their power base to increase the power of low power individuals. They will be reinforced by receiving high ratings from other team members if they are able to accomplish this. Second, abuses will be dealt with using immediate punsihment as the intervention technique.

HYPOTHESES AND RESEARCH QUESTIONS

As a result of the foregoing, the following hypotheses and questions concerning the nature of power, power bases and power management have been constructed and will be tested.

Research Questions

The first two research questions attempt to establish support for the choice of an exchange theory of social influence as an appropriate theoretical framework for this type of research. The exchange theory of social influence states that an individual has power if he possesses a base which can mediate rewards or punishments for other individuals. All bases, therefore, should have a reward and punishment capability and the tactics employed should be associated in some way with the base or bases.

Reward and punishment consequently should not be identified as bases in themselves but their promise, their threat or their delivery should be prime tactics employed by a given base.

Research question 1: Will team members identify reward and punishment as power bases or bases other than these?

Research question 2: Will there be a relationship or pattern between the tactic used and the base an individual is credited with having?

The third research question is intended to explore a premise of the team system which states that legitimate power is a minimal base which is supplanted by other bases.

Research question 3: Will legitimate power be identified as a power base?

Hypotheses:

The major assumption of the exchange theory of social influence is that individuals are aware of what costs and benefits are available in any given exchange. The first four hypotheses are directed at establishing an indication of the validity of this assumption.

H_O1: No significant agreement exists between team members on the four power bases identified as the group power bases.

H_O2: No significant agreement exists between team members on which members of the team are the principal holders of the group power bases.

H_O3: No significant difference exists between mean estimated relative percentage of power abuse and the mean observed relative percentage power abuse of the power holders.

H_O4: No significant correspondence exists between the teams' perception of the power distribution and the observed distribution in terms of who holds the power and in what order of importance.

The fifth hypothesis is to determine whether individuals are trying to satisfy group or personal goals and needs by entering into the exchange process.

H_O5: No significant difference exists between the team member's choice of group and of individual power bases.

The last three hypotheses are concerned with the central question of the thesis--how to decrease the use of abusive tactics and how to increase relative power of less influential team members.

H_O6: The introduction of a punishment technique for abuse in an experimental group results in no significant difference in the use of abusive tactics between time

1 and time 2 in this group as compared to a control group.

H_O7: The introduction of an experimental procedure in the experimental group does not result in a decrease in the team deviances from a balanced position between time 1 and time 2 as compared to a control group.

H_O8: The introduction of an experimental procedure in the experimental group does not result in an increase in perceived power of lower power individuals between time 1 and time 2 as compared to a control group.

CHAPTER THREE

METHOD

Setting

The Alberta Gas Ethylene Company (AGEC) was selected for the research because of access, familiarity, and the type of organizational structure. AGEC is located twelve miles east of Red Deer in the province of Alberta.

The function of AGEC is to produce ethylene from ethane by a continuous process. The plant is self-sufficient in terms of its operating, maintenance, engineering, and employee relations functions.

All the ethylene from the first plant is sold on the basis of a cost plus profit, take-or-pay contract for twenty years.

Subjects

The twenty teams that make up the organization at AGEC were asked to volunteer for a research study to be conducted by the author. The only additional information they were given was that the study was concerned with power. Nine teams were selected on the basis of their function in the organizational structure. The functions were selected to represent the total span of functions within the organization; management, maintenance, administration, secretarial, engineering, computer processing, operations, employee relations, cross organizational policy making, and problem solving. This range of functions was selected to see whether different ones would reflect different power orientations. The employee relations team was dropped because it was undergoing a significant turnover; therefore, it was known in advance that it would make a poor experimental or control team.

The teams varied in size from five to ten members. The total number of participants in the initial phase was sixty- three. Because of illness, holidays, and turn-over, the second phase of the experiment had only fifty participants.

Five of the teams were entirely male. Two of the teams had mixed sex, and one team was entirely female.

The teams were randomly sorted into a control and experimental group with four teams in each group. They were treated in this fashion for the testing of hypotheses 6, 7, and 8. They were treated as separate teams for testing of hypotheses 3 and 5 and for answering the research questions.

Measurement Devices

The open-ended question was the technique selected, to ensure that biasing would not occur, to open the possibility for uncovering more bases, and because it was suitable to produce data to answer research questions 1 and 3 and to produce data to test the following hypotheses; 1, 2, 5, and 8.

The questions asked as they apply to the hypotheses and questions are listed below:

Research Question 1,3 and Hypothesis 1:

"What do you think are the four most significant bases of power in this team as it pursues its goals and objectives? In other words, these bases would be such that if you possessed one of them in sufficient quantity it would enable you to be highly influential in the team."

Hypothesis 2:

"Who in this team possesses each of the bases to the greatest degree? You may use the same name repeatedly if you feel it is justified."

Hypothesis 3:

"What percentage of the time do you feel each identified power holder uses his power in an abusive, counter productive fashion?"

Hypothesis 5:

"Certain people in the team may influence you as much or more than some or all of those already identified. What is it about them that results in your allowing them to influence you? List the four bases in this team to which you personally are most responsive."

Dependent Variables

Two techniques were selected for measurement of the dependent variables, a semantic differential device and behavioural analysis. The dependent variables measured were: perceived self-power, observed power, and productive and abusive power tactics.

Dependent Variables for Hypothesis 8 -

Perceived self-power. This was measured using a subset of semantic differential items with a seven rather than nine point rating scale which has established face and construct validity (Heise, 1970, Michener, Lawler and Bacharach, 1973). (See Appendix C). This device was used to produce data for testing Hypothesis 8.

Dependent Variables for Hypotheses 4 and 7 -

Observed Power. As there were repeated suggestions in the literature that power is not a unitary construct, several variable were sought. The literature produced four behavioural criteria and speculation produced three more. The variables selected which had literature support were:

a) air time
b) interruptions
c) initiations
d) decisions initiated

The two additional measures used which were not encountered in the literature were:

a) relative average speech length
b) relative frequency of decisions/initiations
c) relative frequency of constructive uses of power (see Appendix C)

Procedure:

Step 1 and Step 2 were applied to all teams. Step 3 was applied to the experimental teams only.

Step 1. To test Hypothesis 4, 6, and 7, the author attended a regularly scheduled team meeting and video taped a section of the team meeting. The tape was begun after the first thirty minutes of the meeting. A twenty minute segment of this tape was subsequently analyzed for all the dependent variables outlined in the method. This segment began with the next item on the agenda.

Step 2. At the end of this meeting the team and its members were asked to perform a series of tasks. These were as follows:

To test Hypothesis 8,

a) the self-perception rating scales were completed on the basis of the present meeting.

To test Hypothesis 1,

b) each member was asked to answer the question on group power bases. The individual responses were collected.

To test Hypothesis 1,

c) the team was asked to reach consensus on the four power bases in the group and on their relative importance. This list was posted by the team and recorded by the author.

To test Hypothesis 2,

d) the individual team members were then asked to identify who in the team possessed the most of each of the posted list of bases. These individual results were collected.

To test Hypothesis 2,

e) the team was then asked to arrive at consensus on the list of power holders.

To test Hypothesis 3,

f) the team members were asked to construct a rating for the group's list of power holders. The ratings were to reflect the percentage of time that the individuals used their power constructively (for the good of the team) and the percentage of time they used it in an abusive fashion (to the detriment of the team or a team member). This rating was to be based on their experience of that individual in the team up to that point in time. These were collected.

To test Hypothesis 5,

g) the last instruction was for individuals to produce a list of the four power bases to which they responded personally. These were collected.

Step 3. Two experimental procedures were implemented.

To test Hypothesis 6,

a) the experimental teams were given a lecturette and a handout on the nature of abuses (see Appendix A). The members of the teams were instructed to use red cards to signal power abuse right at the time of the abuse for the next five team meetings.

In addition they were instructed to notify the abuser at the time of the flagging which abuse they had observed or were the recipient of.

To test Hypothesis 7,

b) the individuals in the group who were designated as possessing the top two power bases were given a new role for the next five weeks. For the ensuing five weeks other team members were instructed to rate each of these two members on seven behaviours. A five point scale was used, for 'exhibited a lot of this behaviour' to 'exhibited none of this behaviour' (see Appendix D). A copy was to be given to the individual after each meeting and a master copy was to be retained for the experimentor. This copy was collected at the end of the sixth meeting.

c) A video tape was recorded using the same procedure as for time 1 during the sixth regularly scheduled meeting.

Step 4. Two tape analyzers were employed and trained on dummy tapes to analyze tapes for all the dependent variables listed. Three analyzers were used, these two plus the author. No one analyzed both a time 1 and time 2 tape for the same team.

Data Analysis

Data were analyzed by the following procedures:

Inter-rater reliability. An inter-rater reliability coefficient was used and applied separeately to each of the six dependent variables.

Research Question 1. The group, consensus and individual bases which were identified were scanned for the ocurrence of reward and punishment as bases.

Research Question 2. The data were sorted into seperate power bases. The tactics used were plotted according to base and the plots were visually scanned for the occurrence of regular patterns.

Research Question 3. The individual, group and consensus bases data were analyzed for each team and a histogram of percentage of occurrences of legitimate power was constructed.

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Hypothesis 1. A χ^2 proportion of agreements and disagreements was employed using the observed raw bases data (Hays, 1973). The expected results were assumed to be the probability of each of the mentioned bases occuring if chance had been the basis of selection.

A second χ^2 test was undertaken after collapsing the raw bases. The criteria used for amalgamating the bases were similarity and literature support. The expected results became the probability of occurrence of each base by chance, given 'n' team members and the total number of bases in the revised list.

Hypothesis 2. A χ^2 of proportion agreement/disagreement was used. The observed data were the individual team member's list of power figures. The expected data were the probability of the occurrence of each team member's name if random selection was operating.

Hypothesis 3. A t-test for differences between means was used (Hays, 1973). The data for the first mean consisted of team member's perception of relative percentage of power abuses for each of the top four bases. The data for the second mean was the relative percentage of power abuse observed on the video tapes.

Hypothesis 4. The observed data for each dependent variable was transformed to rankings across subjects. The following formula was then used to compute the relative power of each team member:

$$PI_1 = (2x + y + z + 2w + 2v + m)$$

x = ranking of relative air time

y = ranking of relative speech length - $\frac{\text{air time}}{\text{\# of speeches}}$

z = ranking of relative frequency of successful/unsuccessful interruptions

w = ranking of relative frequency of initiations

v = ranking of relative frequency of decisions initiated

m = ranking of relative magnitude of $\frac{\text{decisions}}{\text{initiations}}$

The resulting PI_1's for each team member were subsequently ranked. The number of agreements between each team's consensus list of names and the names produced by this procedure were recorded and a percentage of agreements and disagreements was computed. An inter rater/reliability coefficient was then employed. The same procedure was used with the rankings.

The same procedure was used to create PI_2 with the following exceptions;

a) no weighting was used

b) m and y were deleted

c) ranking of relative frequency of constructive uses was added.

Hypothesis 5. A χ^2 of agreements/disagreements across all subjects was used to test this hypothesis. The number of agreements for each subject between her individual and group list was the observed data. The hypothesis was stated in the null form, therefore the expected was for perfect correspondence. The expected, therefore, was that all subjects would have four matches.

Hypothesis 6. A t test for the significance of the difference of mean differences was employed (Hays, 1973). The first mean was based on the differences in relative frequency of abuses between time 1 and time 2 for the experimental group. The second mean was created in the same way for the control group.

Hypothesis 7. A Pearson Product Moment Correlation matrix was computed for each of the control and experimental groups using the differences between time 1 and time 2 for the following transformed dependent variables; air time, interruptions, initiations, decisions, and constructive uses (Roscoe, 1969). The transformation procedure used transformed the data to a proportional amount for that team member as compared to other team members, thus making the data more comparable across situations due to the loss of team members at time 2. An average power score was computed for each team member. The average balance power score was computed for each team member by taking 100% and dividing it by the number of team members. Finally, a deviation score was computed for each team member by subtracting average power observed from balance of power obtained.

A t test for the significance of mean differences of deviations around balance was computed using the absolute mean percentage deviation scores for individuals. The first mean was based on the differences/deviations for the experimental group between time 1 and time 2. The second mean was created in the same way for the control group. The deviation scores were transformed to the mean absolute percentage deviation because of unequal team sizes and the loss of subjects between times 1 and 2.

The scores were again transformed to make groups comparable. This transformation involved multiplying each individual's score by $\frac{n}{n-1}$. This transformation can accomodate groups up to an infinite number of members.

A t-test for the significance of mean percentage differences of deviations around balance was computed using the absolute transformed deviation scores for individuals. The first mean was based on the mean differences/deviations for the experimental group between time 1 and time 2. The second mean was created in the same way for the control group.

Hypothesis 8. A t test was conducted of the significance of difference of mean differences at time 1 and time 2 between the experimental and the control groups. The differences were based on the average ratings across adjectives for perceived amount of own power in the team at time 1 and time 2.

A second test was conducted. The perceived power ratings were correlated with the relative obtained power at time 1 for subjects in both the control and experimental group. This analysis was repeated for time 2.

CHAPTER FOUR

RESULTS

The first three research questions and the first five hypotheses were intended to clarify the nature of power in the teams by identifying power bases, power holders and power tactics. They were also intended to establish additional construct validity for the dependent variables which had been selected as measures of power in the experimental section of the research. In addition, the author was seeking to establish further credibility for the exchange theory approach to social influence.

Hypotheses 6 to 8 are concerned with whether the interventions used were effective in altering power management.

Research Question #1. Will team members identify reward and punishment as power bases?

Out of sixty-three subjects, only one mentioned threat as a power base. No one mentioned reward as a base. Interestingly, the person who mentioned threat was the most senior man at the plant, a vice president, a member of the cross organizational team (COT). When his reasons for selecting this base were subsequently explored, it was revealed that the tactic used was a warning, that the direct base was information and the indirect base, resources. A recurring tactic used by members of this team was to warn the vice president when in conflict with him that employees were unhappy with his proposal and wanted to quit unless he adopted theirs. According to Tedeschi, Schlenker, and Bonoma (1973), this can only be classified as a warning, since the person('s), A issuing the warning did not take ownership in the quitting action but referred to persons outside the team. The actual content of the message is information about the feelings and intentions of others. If A himself were threatening to quit, the power base would be a resource, the labour and expertise which he was threatening to remove. It is not surprising that the recurrent nature of this tactic led the vice president to view threat as a power base, albeit incorrectly.

Research Question #2. Will there be a relationship or pattern between the tactic used and the base which an individual is credited with having?

Although the numbers of cases were small (between one and eight), some interesting patterns emerged from the analysis of the base versus the tactic (see Table 1 and Table 2). The tactics most frequently and widely used by those described as energy sources were: ordering, alliances, and disapproval (both verbal and non verbal) on the abusive side, and initiations, providing information and an organizational framework on the positive side.

Capping, gatekeeping, ordering, ridiculing and talking at length were the negative tactics of information bases; initiations, providing information and an organizational framework were their positive tactics. Facilitators were primarily deflecting conflicts, initiating, providing

Table 1

Frequency of Use of Abusive Tactics for Each Power Base

	not answering	evading	capping	put downs	deflecting conflicts	guiding	long verbal speeches	circling
n = 8 Energy	0	1/1	4/3	7/3	2/2	0	4/3	6/3
n = 7 Information	5/3	0	9/5**	15/6**	4/3	4/2	9/5**	1/1
n = 2 Facilitation	3/2*	0	3/1	4/1*	5/2**	1/1	2/2	0
n = 4 Position	3/2	0	4/2	11/4**	1/1	3/3	6/3**	3/1
n = 1 Connections	2/1*	0	3/1**	4/1**	2/1*	0	1/1	1/1
n = 4 Communication Skills	1/1	0	7/4**	19/4**	9/4**	6/3*	6/4*	5/4*
n = 1 Personality	0	0	0	0	0	0	0	2/1**
n = 5 Expertise	11/2*	2/2	9/5**	5/3*	2/1	4/2	1/1	9/5**

Table 1 (cont'd)

	gatekeeping	ordering	alliances	disapproval	non-verbal disapproval	threats	warnings
n = 8 Energy	1/1	* 7/4	** 8/5	** 12/7	** 9/5	1/1	2/1
n = 7 Information	* 6/5	** 11/6	4/1	4/2	5/3	2/2	3/3
n = 2 Facilitation	1/1	2/1	1/1	* 3/2	0	0	1/1
n = 4 Position	* 5/4	2/1	5/2	0	3/2	1/1	3/3
n = 1 Connections	0	* 2/1	0	* 2/1	* 2/1	0	1/1
n = 4 Communication Skills	** 9/4	** 7/4	4/4	1/1	1/1	3/3	1/1
n = 1 Personality	0	0	0	** 2/1	0	* 1/1	* 1/1
n = 5 Expertise	3/1	3/1	** 13/5	** 2/2	** 6/3	2/2	2/2

numerator - frequency of occurrences of the tactic

denominator - number of individuals who used the tactic

* - limited tactic/base connection

** - strong tactic/base connection

Table 2

Frequency of Use of Constructive Tactics for Each Power Base

	initiative	informa-tion	expertise	feedback	focus	organiza-tional framework	product or personnel	approval
n = 8 Energy	37/8**	17/6**	4/3	0	4/4	4/7*	2/1	0
n = 7 Information	27/7**	22/5**	3/2	0	9/3	7/6*	5/3	1/1
n = 2 Facilitation	15/2**	17/2**	5/2*	0	1/1	6/2*	0	1/1
n = 4 Position	22/4**	9/3*	2/1	0	3/3	4/3	0	1/1
n = 1 Connections	3/1**	3/1**	4/1**	0	1/1	0	0	1/1
n = 4 Communication Skills	40/4**	21/4**	9/4*	0	8/2	14/4**	0	5/3
n = 1 Personality	0	1/1	0	0	0	1/1	0	0
n = 5 Expertise	15/4**	16/5**	3/3	0	2/2	8/5	1/1	1/1

numerator - frequency of use of tactic

denominator - number of individuals who used the tactic

* - limited tactic/base connection

** - strong tactic/base connection

information and organizational frameworks. In addition they were using put-downs, not answering, and disapproval, but to a lesser extent.

Those persons labelled as possessing legitimate power used ridicule, talking at length, and gatekeeping as their negative tactics. On the positive side, they were heavy initiators and information providers. The connections sample consisted of only one person and was confounded by the fact that the same person was also labelled as a facilitator. His major negative tactics were put-downs and capping; his positive ones, initiating, expertise and providing information.

Communicators used a range of tactics. Capping, put-downs, deflecting conflicts, circling, gatekeeping, guiding, ordering and talking at length were their negative tactics; initiating, providing information, expertise and a framework, their positive tactics.

The personality base also consisted of only one person and was confounded by his also being an energy base. His most frequently used tactics were all negative and included circling, disapproval, warnings, and threats. Experts employed not answering, capping, circling, alliances, and disapproval, both verbal and non-verbal, as negative tactics and providing information as a positive tactic.

Research Question #3: Will legitimate power be identified as a power base?

Power of position (legitimate) was mentioned by some of the members of seven out of eight teams (see Figure 2). Subsequent to the consensual process, power of position remained as a base on only four teams (see Figure 3). An interesting finding was that power of position appeared on the final consensus list only where it had previously appeared on both group and individual base lists.

In two of the eight teams it was listed by only one person. In the maintenance team the person identifying it was the link-pin. Conversely, in the management team everyone except the link-pin identified it as a base. A similar result occured in the cross organizational team, where the management member did not see power of position as a base but the other members did.

When this happens, it suggests that power of position is hypothesized to exist and is subsequently deferred to, even if those who are expected to hold it are not actively encouraging such an attitude. This situation was discussed in the administration team, where the link-pin recognized it as a base and as a reality in the team, but took the opportunity to chastise the other team members for their attitude. He himself felt that his base ought to be something other than legitimate power and was annoyed by the deference, as he felt that he had done nothing to encourage it.

After legitimate power was explored by the administrative technicians' team, it was dropped, the team members concluding that they had confused position with connec-

FIGURE 2

Identification of Position as a Power Base

By Each Team

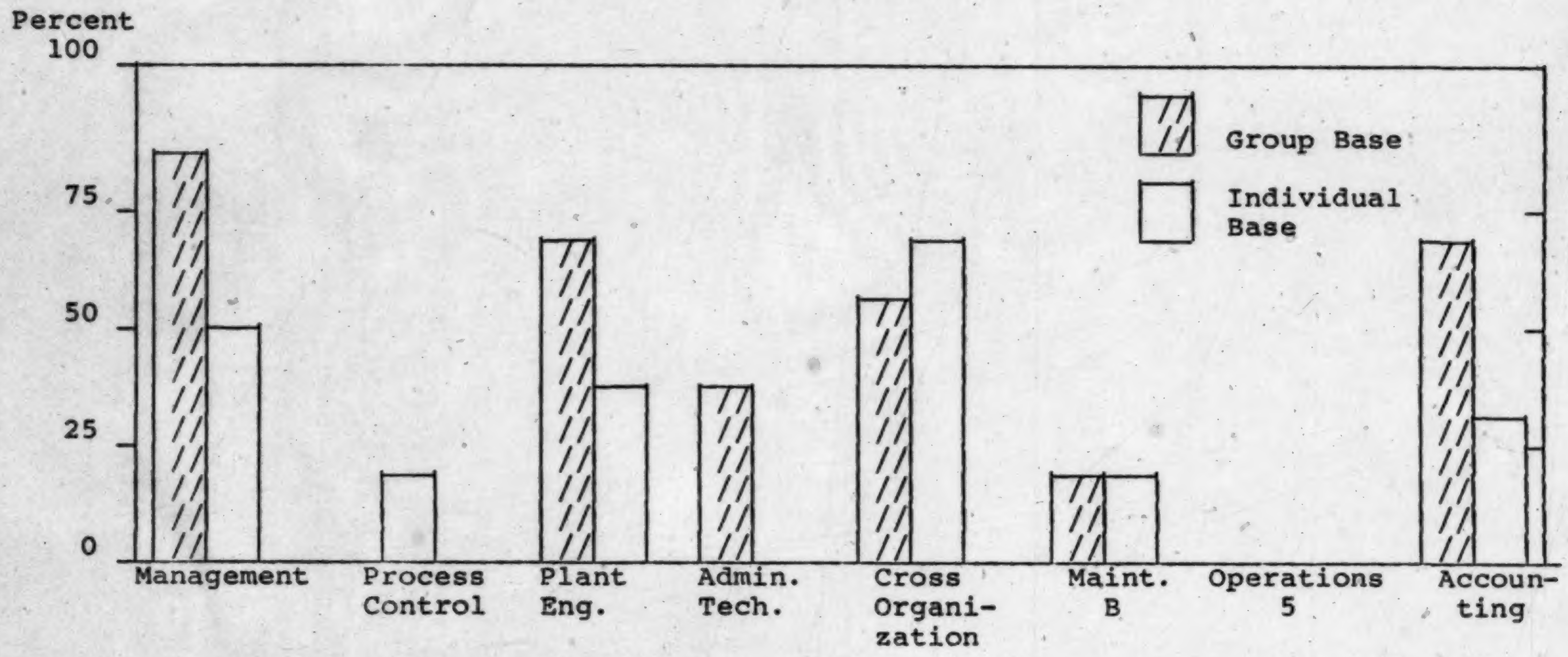
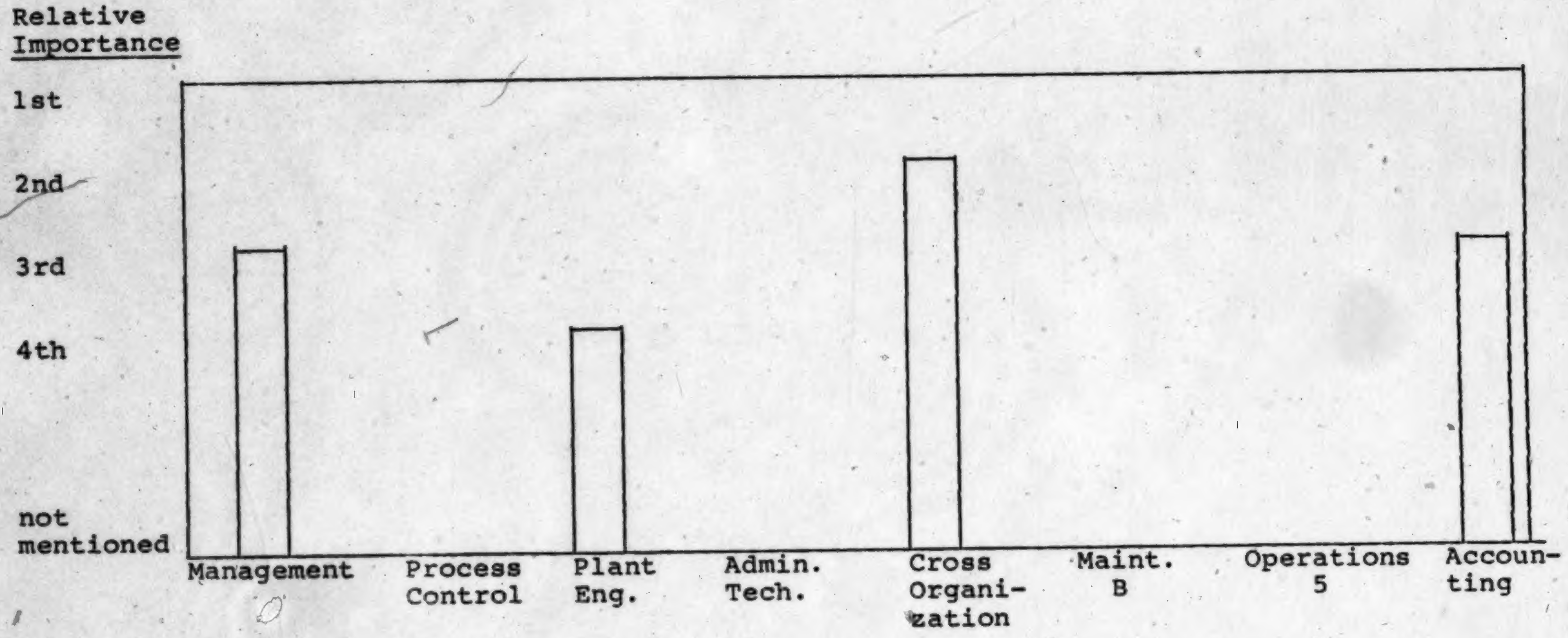


FIGURE 3

Relative Importance of Position as a Power Base as Consensually Determined by Each Team



tions.

Where position power was identified as a factor in the teams the power imbalance was great (see * Table 16).

Hypothesis #1: No significant agreement exists among team members on the four power bases identified for the group.

The χ^2 test for significance of agreement/disagreement found only two of the eight teams demonstrating significance when the exact bases produced by the team member were used. These teams were management (χ^2 = 16.07 < 0.05) and plant engineering (χ^2 = 34.85 < 0.001) (see Table 3).

As a next stage of analysis, an examination of the lists of bases generated by the participants suggested that they could be reduced in number by collecting those that appeared to be virtually synonymous and by subsuming groups of others in more encompassing bases defined in the literature. For example, intelligence, performance and experience were considered to be reasonably similar to expertise. In the end, nine bases were selected as adequately reflecting the thirty two orginally listed. These were: information, expertise, facilitative skills, position, connections, energy, communication skills, personality, and creativity (see Appendix E). Although communication skills and facilitation may still appear to overlap, the author feels that in a team environment the distinction is important. Expertise will address the content; communication skills,

Table 3

χ^2 - of Agreement/Disagreement on Four Power Bases Identified for the Group

- Unrevised Bases

Team	χ^{2*}	Level of Significance
Management	$\chi^2_9 = 16.07$	< 0.05
Process Control	$\chi^2_7 = 11.43$	n.s.
Plant engineering	$\chi^2_{13} = 34.85$	< 0.001
Administrative Technicians	$\chi^2_{11} = 4.77$	n.s.
Cross Organization	$\chi^2_{13} = 9.5$	n.s.
Maintenance B	$\chi^7_8 = 10.91$	n.s.
Operations 5	$\chi^2_{12} = 16.95$	n.s.
Accounting	$\chi^2_{12} = 14.48$	n.s.

* Degrees of freedom related to number of bases identified by each team.

the method of expressing content; and facilitative skills, the process.

The original lists having been transformed in accordance with revised bases, the χ^2 of significance of agreement was again employed. Three more teams achieved significance:

the process control teams ($\chi^2 = 23.65 < 0.01$),
the maintenance team ($\chi^2 = 17.13 < 0.05$),
and the operations team ($\chi^2 = 23.58 < 0.01$) (see

Table 4). In five of the eight teams, therefore, team members without previous discussion perceived the same bases of power operating in their teams and were able to identify them.

A third method was used to assess the data in view of the small size of the samples which made it very difficult to obtain significant results with a χ^2 statistic; besides which the χ^2 statistic does not reflect the exact nature of the agreement. The percentage of agreement amongst the members of each team was computed for each base on the consensus list using revised data (see Table 5).

The transformed data suggest that there is generally high agreement about two of the bases (70 percent or higher), over 50 percent agreement on the third base, but little or no agreement about the fourth base. Had the assignment been to select three rather than four bases, the results of the χ^2 may have been significant across all eight teams.

Table 4

χ^2 - of Agreement/Disagreement on Four Power Bases Identified for the Group - Revised Bases

Team	χ^2*	Level of Significance
Management	$\chi^2_8 = 11.14$	< 0.20
Process Control	$\chi^2_7 = 23.65$	< 0.01
Plant Engineering	$\chi^2_8 = 20.75$	< 0.01
Administrative Technicians	$\chi^2_8 = 7.49$	n.s.
Cross Organization	$\chi^2_8 = 5.29$	n.s.
Maintenance B	$\chi^7_8 = 17.13$	< 0.05
Operations 5	$\chi^2_8 = 23.58$	< 0.01
Accounting	$\chi^2_8 = 6.49$	n.s.

* Degrees of freedom related to the total number of revised bases.

Table 5

Percentage Agreement Amongst Team Members

on Group Bases Transformed

Team	First Base	Second Base	Third Base	Fourth Base
Management	Information 100%	Expertise 83%	Position 83%	Energy 83%
Process Control	Facilitation 71%	Communication 71%	Expertise 100%	Connections 57%
Plant engineering	Information 33%	Expertise 100%	Energy 56%	Position 67%
Administrative Technicians	Energy 67%	Communications 50%	Expertise 67%	Information 33%

Table 5 (cont'd)

Team	First Base	Second Base	Third Base	Fourth Base
Cross Organizational	Information 57%	Position 71%	Energy 43%	Personality 43%
Maintenance	Information 83%	Energy 68%	Energy 67%	Facilitation 67%
Operations	Expertise 90%	Communciation 60%	Energy 80%	Information 30%
Accounting	Energy 50%	Information 40%	Position 80%	Energy 50%

Examination of the actual bases selected exposes some interesting characteristics of the team system and of the teams themselves. Five of the eight teams selected expertise; seven selected energy; seven identified information; two facilitative expertise; and four communication skills. These are the types of bases that one would expect to emerge in the expanded power that exists with this type of system: bases concerned with the task - expertise; information; bases concerned with the process (both task and interpersonal) - facilitative expertise; communication skills, and energy.

Energy occured as a factor in all teams in which power balance was severely skewed (any deviation score over 50) (see Table 16). It is logical that in a team largely filled with low profile members an energetic member will be noticed and will probably become powerful.

Hypothesis #2: No significant agreement exists between team members as to which member of the team are the priniple holders of the group power bases.

This hypothesis was rejected. All χ^2 reached the $<$ 0.001 level of significance (see Table 6). For the reasons stated previously, the data were subsequently analyzed by exploring the actual level of agreement among team members on each name (see Table 7). Three teams reached levels of agreement exceeding 67 percent on all four names. Two teams reached agreement of 70 percent or better for three

Table 6

χ^2 - of Agreement/Disagreement on Identification of Individual Power Holders of Each Group Base

Team	χ^{2*}	Level of Significance
Management	$\chi^2_5 = 40.00$	$< .001$
Process Control	$\chi^2_6 = 37.75$	$< .001$
Plant Engineering	$\chi^2_8 = 106.00$	$< .001$
Administrative Technicians	$\chi^2_5 = 21.50$	$< .001$
Cross Organization	$\chi^2_6 = 40.00$	$< .001$
Maintenance	$\chi^7_5 = 24.99$	$< .001$
Operations	$\chi^2_9 = 64.00$	$< .001$
Accounting	$\chi^2_9 = 49.5$	$< .001$

* Degrees of freedom related to the number of team members in each team.

Table 7

Percentage of Agreement on the Power Holder

of each Group Base

Team	Base 1	Base 2	Base 3	Base 4
Management	100%	67%	83%	83%
Process Control	57%	57%	43%	71%
Plant Engineering	100%	56%	67%	100%
Administrative Technicians	83%	83%	100%	67%
Cross Organizational	86%	86%	100%	71%
Maintenance	83%	83%	83%	50%
Operations	90%	50%	80%	40%
Accounting	90%	50%	100%	50%

of the names and above 50 percent for the fourth name.

In six of the teams the same individual was stated to possess the greatest quantity of more than one base (see Table 8). In two of four cases where position was identified as a base, the person concerned was credited with another base, information or expertise (see Table 8).

In the management team three of the four bases rested with the vice president - experience, expertise; information and position (see Table 8). While this result was not surprising, it does show a potential problem in terms of deference and balance. (See the circled data for management team in Table 17). In this particular case, he was not the root of the problem although the balance was poor.

In the process control team, one individual is seen as having both the expertise and the communication skills while one other individual is seen as managing the interaction of the team (facilitative expertise) and possessing high energy (see Table 8). Because of the breadth of bases covered these two individuals could easily overshadow their team members. There is some support for this conclusion in Table 16. (See the boxed figures in Table 17.) Between the two of them they contribute half the total deviance and both have more than their share of power.

In the plant engineering team, four bases were also shared by only two individuals (see Table 8). In this case information and position are together, as are expertise and energy. Information and position can be a very powerful

Table 8

Reduced Bases in Order of Importance Selected

at Group Level By Each Team

Team	Rank	Bases	Power Holder #
Management	1	Information	2
	2	Expertise	2
	3	Position	2
	4	Energy	1
Process Control	1	Facilitation skills	6
	2	Communication skills	2
	3	Expertise	2
	4	Connections	6
Plant Engineering	1	Information	10
	2	Expertise	3
	3	Energy	3
	4	Position	10
Administrative Technicians	1	Energy	4
	2	Communication skills	3
	3	Expertise	1
	4	Information	3
Cross Organizational	1	Information	1
	2	Position	4
	3	Energy	7
	4	Personality	7
Maintenance B	1	Information	group
	2	Energy	4
	3	Energy	4
	4	Facilitation skills	3
Operations 5	1	Expertise	7
	2	Communication skills	4
	3	Energy	5
	4	Information	6
Accounting	1	Energy	5
	2	Information	9
	3	Position	1
	4	Communication skills	6

combination because position enables the individual to censor information selectively without fear of reprisal. (See the triangle figure in Table 17). This individual was twice as deviant as anyone else in terms of having excess power. This team also had serious problems with power imbalance (see Table 16).

In the administration team, communication skills and information rested with one individual (see circled figure administrative technician team in Table 17). This individual was overpowering by a deviance score of 124% which represents approximately a third of the total deviance for the team. This logically would not appear to be as potentially overpowering as the previously noted combinations.

In the cross organizational team one individual holds both personality and energy bases. The specific factor identified were openness/honesty and persistence. Potentially this person may be role cast as a group conscience. It is interesting to note that these bases were selected in a team charged with meeting the needs of the entire organization. More will be said in the discussion about how the bases may reflect the unique functions of each team.

In the maintenance team the two factors identified for one individual both fall under the energy heading: persistence and ownership. This particular combination raises connotations of stubbornness, for which the high percentage of abuses observed with this individual offers support. He produced 56% of the total number of abuses in his team.

In the operations and accounting teams the four top bases were distributed across four members. Power imbalance was less severe in operations but was still poor in accounting (see operations in Table 16).

Inter-rater reliability. Inter-rater reliability coefficients were established to insure that the dependent variables could be reliably identified across raters. A reliability coefficent of 0.80 was considered adequate. The inter-rater reliability coefficients obtained for each of the dependent variables are listed in Table 9.

Hypothesis #3: No significant difference exists between mean estimated power abuse and mean observed relative power abuse by the power holders.

A test of significance between means was used to test this hypothesis, which was rejected ($t=2.65 < 0.01$). Team members perceived less relative abuse by the power holders than was observed in the video analysis. The groups with the greatest discrepancy were: the managers - 45 percent underestimated, process control - 61 percent underestimated, and plant engineering - 51 percent underestimated.

Five of the eight teams were operating at a level above 50 percent during the twenty minutes analyzed (see Table 10), which means that more than half the time that these individuals were attempting to exercise influence, they were doing so in a coercive or manipulative fashion.

Table 9

Inter-rater reliability Between Raters on Dependent Variable Measurement

Dependent Variables	Inter-rater	Reliability	Coefficient
	r_1* r_2**	r_2 r_3***	r_3 r_1
ranking of air time	1.00	1.00	1.00
number of speeches	0.50	0.67	0.50
frequency of interrruptions	1.00	0.83	0.83
frequency of initiations	0.79	1.00	0.79
frequency of decisions	0.83	1.00	0.83
frequency of each abusive tactic	0.67	0.85	0.80
frequency of each constructive tactic	0.85	0.88	0.85

* r_1 - tape analyser one

** r_2 - tape analyser two

*** r_3 - tape analyser three

Table 10

Differences Between Estimated Power Abuse and Observed Power Abuse

Team	Power Holder	Group Estimated	Actual VTR Measure %	Difference %
Management	2	15	70	55
	2	15	70	55
	2	20	70	50
	1	35	55	20
Process Control	6	20	70	50
	2	15	80	65
	2	10	80	70
	6	10	70	60
Plant Engineering	10	5	65	60
	3	15	70	55
	3	25	70	45
	10	20	65	45
Administrative Technicians	4	40	50	10
	3	35	50	15
	1	10	70	60
	4	25	50	25
Cross Organizational	1	10	20	10
	4	20	55	35
	7	30	40	10
	7	10	40	30
Maintenance B	group	15	60	45
	4	20	55	35
	4	15	55	40
	3	20	40	20
Operations 5	7	20	40	20
	4	20	50	30
	5	15	25	10
	6	35	45	10
Accounting	5	25	60	35
	9	30	40	10
	1	25	20	(5)
	6	25	45	20

Hypothesis #4: No significant correspondence exists between the team's perception of the power distribution and the observed power distibution in terms of whom and in what order.

Of the twenty-two names produced by the consensus process in the teams seventeen corresponded with the names produced by using the dependent variables in the manner indicated in the Data Analysis section using PI_1. Although this method yields a correlation of 0.91 in terms of identifying sources, it yields a correlation of only 0.18 in terms of predicting exact rankings. This result suggests that this tool will be useful for identifying the powerful figures in a group but will not reliably produce the perceived ordering.

PI_2 yielded the same correlation in terms of identifying and a correlation of 0.21 in terms of ordering. Consequently, it was selected as the indicator for testing Hypothesis 6 (see Table 11).

Hypothesis #5: No significant difference exists between team members' choice of group bases and her choice of individual bases.

There was a significant amount of disagreement between the individual's base list and the group's base list for all team members ($\chi^2 = 78.5 < 0.001$). On average the subjects selected 2.65 items from the group base list in

Table 11

Comparison of Power Index

and Consensus Index of

Power Holder's Relative Power

Team	PI_1* PI_2 CI**	Team member 1	2	3	4	5	6	7	8	9	10
Management	PI	2	3	6	4	1	5				
	PI_2	2	3	6	5	1	4				
	CI	4	1/2/3								
Process control	PI_1	7	3	6	5	4	1	2			
	PI_2	7	2	5	6	3	1	4			
	CI		2/3			1/4					
Plant Engineering	PI_1	5	1	3	7	4	8.5	8.5	6	2	
	PI_2	3	2	4	7	5	8.5	8.5	6	1	
	CI	2/3								1/4	
Administrative Technicians	PI_1	1	6	2	3	5	4				
	PI_2	1	5	3	2	6	4				
	CI	3		2/4	1						

Table 11 (cont'd)

Team	PI$_1$* PI$_2$ CI**	Team member 1	2	3	4	5	6	7	8	9	10
Cross Organization	PI$_1$	4	7	2	1	6	5	3			
	PI$_2$	3	7	2	1	4.5	6	4.5			
	CI	1			2			3/4			
*** Maintenance	PI$_1$	3	5	1	2	4	6	7			
	PI$_2$	2.5	6.5	2.5	1	4	6.5	5			
	CI				4	2/3					
Operations	PI$_1$	9	5	7	6	1	3	2	10	4	8
	PI$_2$	7.5	5	6	7.5	1	3	2	9	4	10
	CI				2	3	4	1			
Accounting	PI$_1$	5	9.5	7	9.5	2	1	8	6	4	3
	PI$_2$	5	9.5	7	9.5	2.5	1	8	6	2.5	4
	CI	3				1	4			2	

*PI = ranking of $(2x + y + 2 + 2w + 2v + m)$ (see page 92 for definitions of variables

**CI = consensus rankings of team

*** Maintenance = The first base was held equally by all team members.

their individual lists.

Upon a more detailed exploration of the data it was discovered that either expertise, intelligence, experience or information was listed in ninety-two percent of the cases. Whether the individual team members see information or expertise as the more relevant base is probably a reasonable indication of whether they interpret their function as coordinating or problem solving (see Table 12).

Hypothesis #6: The introduction of a punishment technique for abuse in the experimental group results in a significant difference in the use of abusive tactics from time 1 to time 2 as compared to a control group.

The hypothesis was supported when all eight teams were used in the analysis ($t = 0.71$ ns) (see Table 13). In three of the teams (administration, maintenance, and operations) the heaviest abusers from time 1 were absent. To explore the possibility that abuse is produced by abuse, thus resulting in a significant reduction when the original abuse is curtailed or removed, the t analysis was run with the remaining five teams. This time the hypothesis was rejected ($t = 2.30 < 0.025$) (see Table 13). This finding suggests that abuses may have been significantly decreased in the experimental group by the introduction of an instant feedback technique.

Hypothesis #7: The introduction of an experimental

Table 12

Individual Bases Related to Team Function
Most Frequently Identified by Team Members

Team	Bases	Identified
Management	Information	Expertise
Process Control	Expertise	
Plant engineering	Expertise	
Administrative Technicians	Information	Expertise
Cross Organizational	Information	
Maintenance	Information	
Operations	Expertise	
Accounting	Information	

Table 13

Decrease in Relative Percentage of Power Abuse
to Total Power Use Between Time 1 and Time 2

	Experimental		Control
Team	Individual Member Change	Team	Individual Member Change
Management	-.10, -.15, -.60, -.08 -.47, +.05	Cross Organizational	+.26, -.13, +.15, -.08, +.17, -.38
Process Control	0, -.09, +.04, -.10, -.48, -.07	Maintenance B *	-.24, -.71, -.29, -.33, -.21
Plant Engineering	+.03, -.22, -.20, -.50, -.37, 0, +.38, -1.00, -.16	Operations 5 *	-.40, -.15, 0, -.05, -.04, -.53, +.20
Administrative Technicians *	0, +.10, -.27, +.30	Accounting	+.19, 0, +.27, -.22, -.14

$t =$ 0.71ns when all eight teams analyzed

$t =$ 2.30 $<$ 0.025 when three asterixed (*) teams removed from analysis procedure in the experimental group does not result in a significant decrease in the team's deviance from a position between time 1 and time 2, compared to a control group.

A Pearson product correlation for the control group found significant correlations between most of the variables except frequency of constructive uses of power bases in which there were no correlations and interruptions with decisions. These variables appear to be independent of the others (see Table 14). This pattern was not as consistent in the experimental data (see Table 15).

The results of the t-test of significance of differences in balance between the experimental teams and the control teams supported the null hypothesis ($t = -0.13 <$ n.s.). Further examination of the data showed that two of the four experimental teams improved the power balance between team members by reducing the mean transferred power discrepancies while two of the four control groups increased their discrepancies over the same period (see Table 16). The process control team became more imblanced even though it was an experimental team. One of the power figures in this team who was charged with facilitating power balance actually increased his power of the course of the six weeks, which may have contributed to the outcome (see first □ figure, Table 17).

The results of the t-test of significance of

Table 14

Pearson Product Moment Correlations Between Differences of PI_2 Variables at Time 1 and Time 2 for the Control Group

	Air Time	Interruptions	Initiations	Decisions	Constructive Uses
Air Time	1.000 <.000	0.5844 <.003 *	0.6178 <.002 *	0.6383 <.001 **	0.2745 <.121
Interruptions	0.5844 <.003 *	1.000 <.000	0.3681 <.055 *	0.3530 <.063	0.2059 <.192
Initiations	0.6178 <.002 *	0.3681 <.055 *	1.000 <.000	0.4569 <.021 *	0.2204 <.175
Decisions	0.6383 <.001 **	0.3530 <.063	0.4569 <.021 *	1.000 <.000	-0.1563 <.255
Constructive Uses	0.2745 <.121	0.2059 <.192	0.2204 <.175	-0.1563 <.255	1.000 <.000

** significant at the .001 level

* significant at the .05 level

Table 15

Pearson Product Moment Correlations
Between Differences of PI_2 Variables
at Time 1 and Time 2
for the Experimental Group

	Air Time	Interruptions	Initiations	Decisions	Constructive Uses
Air Time	1.000 <.000	0.3522 <.076	0.5699 <.007 *	0.2225 <.187	0.7000 <.001
Interruptions	0.3522 <.076	1.000 <.000	0.3169 <.100	0.3639 <.069	0.1448 <.283
Initiations	.5699 <0.007 *	0.3169 <.100	1.000 <.000	0.6828 <.001 **	0.6329 <.002
Decisions	0.2225 <.187	0.3639 <.069	0.6828 <.001 **	1.000 <.000	0.3334 <.088
Constructive Uses	0.7000 <.001 **	0.1448 <.283	0.6329 <.002 *	0.3334 <.088	.0 <.000

** significant at the .001 level

* significant at the .05 level

Table 16

Effect of Intervention On Power Imbalance in Teams Between Time 1 and Time 2

Team	Mean Transformed Imbalance** @ Time 1	Mean Transformed Imbalance @ Time 2	Mean Transformed Change (- = Improvement)
	Experimental***		
Management	66*	24	- 42
Process Control	54	76	22
Plant engineering	89*	98	9
Administrative Technicians	90	73	- 17
	Control		
Cross Organizational	60*	95*	35
Maintenance	71	51	- 20
Operations	74	85	11
Accounting	84*	67	- 17

* Teams that had position power identified.

** Imbalance measure = $\left(\frac{100}{n} - \frac{\text{Relative Balance}}{5}\right)\frac{n}{n-1}$

where n = number of team members
Relative Balance = member's relative (air time + frequency of interruptions + frequency of initiations + frequency of decisions + frequency of constructive uses)

*** An intervention technique designed to reduce power imbalance was used with the experimental teams between Times 1 and 2. The technique was not used with the control teams.

Table 17

Percentage Change in Power Imbalance for Individual Team Members Between Time 1 and Time 2

Team	Time Differences	Individual Percentage Imbalance Scores	Total Percentage Imbalance
Management	1	35, ○ 18, -76, -53, 200, 29	411
	2	-12, 18, -41, 18, 18, 12	119
	|D|	23, 0, 35, 35, 182, 17	
Process Control	1	-71, □ 36, -29, 7, □ 107, 21, 50	321
	2	-94, ⊔ 76, -41, 29, 47, -82	369
	|D|	23, 40, 12, 22, 60, 61	
Plant Engineering	1	36, 82, 18, -100, 73, -100, -100, -55, △ 173	737
	2	-63, 55, 63, -27, -100, -100, -27, -73, 182	690
	|D|	27, 27, 45, 73, 27, 0, 73, 18, 9	
Administrative Technicians	1	-76, ⊔ 124, 88, -76, 12, 65	441
	2	-100, 80, 40, -50, 20	290
	|D|	24, 44, 48, 26, 8	

Table 17 (cont'd)

Team	Time Differences	Individual Percentage Imbalance Scores	Total Percentage Imbalance
Cross Organizational	1	29, -93, 21, 114, -7, -57. -29	350
	2	-50, -21, 93, 186, -100, -36, -71	551
	|D|	21, 72, 72, 72, 93, 21, 42	
Maintenance B	1	79, -57, 107, -57, -29, 93, 36	458
	2	100, -15, -30, -15, -40	200
	|D|	21, 42, 77, 42, 11	
Operations 5	1	-73, 9, -55, 9, 55, 91, -64, 155, -91	602
	2	-53, 6, -100, 47, 59, -65	330
	|D|	20, 3, 45, 38, 4, 26	
Accounting	1	30, -100, -90, -100, 90, 190, 100, -90, 110, 60	960
	2	-29, -100, -41, 12, 29, 123	334
	|D|	1, 0, 49, 88, 61, 67	

Note: Minus sign (-) for Time 1 or Time 2 represents less power than team member's share, no minus sign indicates more power than team member's share.

differences in balance between all experimental team members and all control team members supported the null hypothesis ($t = 0.44 <$ n.s.).

Hypothesis #8: The introduction of an experimental procedure in the experimental group does not result in an increase in perceived power of lower power individuals between time 1 and time 2 as compared to a control group.

The above hypothesis was supported. There were no significant differences between experimental and control groups in terms of an increase of perceived power ($t = -0.18 <$ n.s.). Four of the teams had unusual power problems, three of these in the control group, which may have contributed to the lack of significance of the result. The operations team was missing two of its identified power figures, one of whom was extremely powerful on the observed dependent variables, holding thirty percent of the total power. His absence effectively created a power vacuum in his group which was picked up by some other members and which should have increased their perception of personal power. In the maintenance team the same problem occured with the same result. In the accounting team the link-pin stated that he did not want the position power which had been granted to him, a decision which produced a challenge to his team mates. Those persons who accepted it were no doubt affected in terms of the perception of their own power.

All of these situations produced changes in the power perceptions of the control group which had not been anticipated and quite possibly interfered with the comparative analysis.

A subsequent analysis looked at the correlation between perceived power and relative actual power (computed using PI_2) at time 1 and time 2 for all teams. The correlation at time 1 was ($r= -.56 < .005$) significant. The correlation at time 2 was significant ($r= -.30 < .025$). The correlations are negative because the perceived power measure increases as the perception rating becomes smaller.

CHAPTER FIVE

DISCUSSION

The results are discussed from two major perspectives: findings related to support of an exchange theory of power, and findings related to power management, both balance and abuse. A third perspective incorporated, but to which only a few of the results related concerns team functioning.

Exchange Theory

Exchange theory is based on the assumption that individuals have full knowledge of what is being exchanged; namely, the resources involved. In the present setting this was interpreted as meaning that team members should see each other in terms of resources. The results of Research questions 1 and 2, and Hypotheses 1 and 2, support this assumption. Although only 5 of the 8 teams achieved a significant level of agreement on the top four bases of power operating in the team, no team had less than 70% agreement on the top two and 50% on the third. It could be argued that members of a team agree on the two or three prime ingredients needed to achieve their mandate, but have unique perceptions of the less important ones.

Once the bases were agreed on, team members concurred in a significant manner on who were the prime holders of each base. Team members were able to agree on whom they looked to for each resource. The fact that individuals are able to concur on what the bases are, and who has them, has implications for the whole area of power research.

Each of these bases must be exhibiting a set of behavioural cues that are sufficiently distinct for there to be agreement among individuals as to what commodity is to be exchanged. This finding supported the author's original model, which included tactics and bases, and further, it supported the approach of trying to link tactics to bases.

The inter-rater reliability results support the idea that the behavioural cues are identifiable as well. Only two dependent variables failed to obtain more than 80% agreement among the raters. One behaviour where there was not 80% agreement was number of speeches per individual. The confusion here related to pauses, after which the speaker would continue, making it difficult to determine whether there was one speech or two. This was another reason the speech length measure was dropped for the testing of Hypothesis 7.

Abuses were the other variable which did not achieve the 80% level across all three raters. Some abuses were difficult for a naive rater to identify because they represented in-house ridicule, or required an awareness of the content. One rater was more able to follow the content than the other and would deduce riducle by side effects such as laughter. More work is needed to permit clearer operational definitions of these abusive tactics, or alternatively a familiarization period for the raters in observing the teams needs to be provided.

This finding has implications for power management as well. Even though an individual may not possess a group base in large enough quantities for it to be involved in an exchange, such as experiential influence, some of the individual needs that other team members have increase the range of power bases which she might possess or could develop. In an ongoing training program, it might be viable to identify all these individual bases and then work from the individual's most apparent strength so that results are obtained reasonably quickly. For example, she might possess communication skills for which it would be easier to gain recognition than trying to develop expertise. This would be preferrable to the alternative which would involve trying to develop group bases in each individual.

Another finding in terms of bases is related to Hypotheses 5. Individuals in a team setting are motivated by two sets of needs, those related to group goals, and those related to their own needs. Individuals that are committed to achieve group goals must be responsive to those resources which assist in obtaining these goals. Most team members are committed to group goals as their own sense of success and their sense of belonging are linked to these goals. As Gordon and Howe (1977) noted, team members are also trying to satisfy individual needs, therefore to mediate rewards for their own needs they should be responsive to resources other than group-based ones. The study supported this reasoning process. Ninety five percent of individuals were responsive to two or more of the group bases.

A further issue that needed to be resolved for exchange theory to be accepted was the confusion around reward and threat. Exchange theory states that individuals enter into exchanges to maximize benefits and minimize cost. This statement invokes the consideration that the root of the exchange, bases, must have a reward and/or punishment component to satisfy the theory. Therefore reward and punishment become a tactic or an effect rather than a base.

Thirty bases were identified initially by teams. Several of these were judged to be synonyms or sub-factors of a more encompassing base. After they were amalgamated, nine bases emerged: position, energy, creativity, expertise, information, facilitation skills, connections, communication skills, and personality. Since reward and threat were not identified as one of the thirty two bases, this finding is consistent with exchange theory. The bases identified are consistent with a medium of exchange, rather than an effect or tactics thus can be incorporated into the operational definition of a base in exchange theory provided in the literature review.

It might be argued that it was the peculiar nature of the organization rather than the methodology that produced these results. The major difference between this research and previous research however is the open ended rather than directive approach to base identification. As mentioned previously, other theorists are starting to speculate about the viability of earlier studies as well. It may prove useful at this time to carry out further open ended studies in other organizations and institutions to see what bases emerge. Another possibility would be to re-analyse the direct questions asked in earlier work to see if some of the items loading on a reward and threat base are in fact misplaced. This work is at best preliminary, although provocative.

The identified bases of particular interest were the ones not encountered in the literature: personality, facilitation skills, connections, and energy.

The personality variable that emerged seemed to be different from the charismatic base found in the literature. It was composed of factors like openness, honesty, and respect, which seemed rather colourless compared to the magnetism associated with charisma. It has occurred to the author that there may be three factors associated with personality that an individual can bring to the exchange process: personal energy, personal magnetism, and personal rectitude. The latter two probably form the basis of the reference base defined in the literature, but should be separated as they can produce two quite distinct reactions. As Raven, (1974) noted, those who use rectitude as a base may not be able to influence because they are seen as too different from the targets; whereas, those with charisma have been found to create power needs in others (McClelland, 1971).

Energy may correspond to the dynamism that Giffen, (1967) identified in his factor analytic study. These people are seen as action oriented, they make things happen and are assertive and persistent. One would anticipate a factor like this to emerge when position power disappears or is reduced. Otherwise, in the absence of management direction the team could potentially become immobilized.

Facilitation skills involve the ability to manage the process of the team's functioning at both a personal and a tactical level. A person with this resource can help the group work through conflicts, focus on problems, and create new methods for tackling problems. Not surprisingly, this was another base which emerged in the absence of position power. One or both of these was present in all teams which did not have legitimate power labelled (see Table 8).

The exchange theory model suggests that people hold power by possessing a base which they can then exchange. This was further extended by the author to state that the exchange process would consist of rewarding or punishing B by providing or witholding the base itself, or in the case of punishment, to use a related aspect of the base (eg. sarcasm, communication skills) to punish B. When the results of the relationship between the prescribed base and the tactics employed by the holder were examined, preliminary support emerged for this approach to base - tactic measurement.

The support is considered to be only tentative because of three factors:

a. There were holes in the paradigm because four of the bases which emerged were not anticipated, thus directly related tactics were missing.

b. The sample sizes for a given base were very small

c. The results were confounded because in some cases the same individual possessed two of the bases.

The following section is a discussion of what tactics were found to be associated with what bases.

An expert base resulted in the providing of information. Expertise showed up, but not prominently. Very few groups worked on technical problems while being taped, but were typically engaged in policy formation or personal problems or team problems, which may account for the low frequency of expert tactic employment. The high level of information tactic might indicate a connection between the two bases: information and expertise, or a possible difficulty in distinguishing which of these is operating. On the negative side, not answering, capping, circling, alliances, put-downs and disapproval were used by the expert. Not answering, circling and capping seemed directly associated with the base. However, it could be argued that disapproval from an expert os a powerful tactic when Bs are seeking confirmation of their social reality.

As the personality sample was limited to one, the following interpretation is highly tentative. Disapproval was the key tactic used, which is consistent with expectations. Approval, however, was not used. The only conclusion drawn is that this individual appeared to be using her power in a coercive fashion.

Communication skills seemed to result in a lot of power oriented behaviour. The negative tactics related directly to this power base were put downs, deflecting conflicts, and long verbal speeches, all of which are predictable on the basis of the theory.

It is worth noting that the individuals identified as having a communication base achieved high scores on providing initiations, information, expertise and organizational framework. It is possible that persons with this base have a wide scope and feel comfortable contributing to any part of the process and can assist the expert, the information holder, etc. with a clear presention of their ideas. From a power management strategy, it would appear that a communication base would be worth developing in individuals because of the breadth of the impact. In addition, those possessing communications skills generally had more than their share of the balance (see ⊍ figure in Table 17). For the purpose of further research, direct tactics which could be used are clarifications and eloquent speeches.

Connections with another resource existed in only one case. Two major negative tactics employed were put-downs and capping. The positive tactics were initiation, expertise, and information. Again, no applicable tactics had been identified previously for either side. The most logical tactics for connections would be warnings and mendations, information screened and information shared. The warnings and mendations would centre around insider information if the model is followed. Put-downs, the tactic employed in this case, could be justified on the grounds that one would want to keep a good reputation, therefore to be thought highly of by well connected people.

Position was associated with put-downs and gate-keeping. More warnings and threats were produced than for all the other bases except information, but it still was not a very prominent tactic. Surprisingly there were few orders. It would appear that although they still hold position power, these leaders "walk softly and carry a small stick". Their strong positives were initiations and information. These are consistent with position, although one would have expected approval and disapproval to play a dominant role.

The closest to a negative tactic that could be found for the processing base was deflecting conflicts. There was a spattering of those negative skills that have to do with directing process such as guiding, capping, and gate-keeping, but none of them achieved prominence independently. On the positive side, information was high, but could not be directly related logically. The tactics expected, focussing and providing organizational framework were not observed. This was surprising, and suggests that more work needs to be done to define the tactics associated with this base. The sample was small, which could also have affected the results.

Information bases were high on ordering, speech length, put-downs, and capping as negative tactics. The only tactic intimately related is capping, although there may be a relationship to speech length and ordering in terms of having the facts. Initiations and providing information were the tactics used on the constructive side. These were consistent with what would be predicted.

The last base, energy, had not been predicted per se, so there were no criteria specifically selected with this base in mind. The dominant negatives were disapproval, alliances and ordering. This group was very high on initiations, and provided a lot of information and a lot of processing. The positives were what one would have predicted, especially the initiation and processing, in light of the fact that these people are action-oriented. The negatives are puzzling; as a direct negative one would have expected overriding, ordering, persistence, and overactivity. The only one of these measured as a tactic was ordering, which was employed but only at a moderate level. Alliances and disapproval seemed more like referent tactics. Perhaps high energy types employ any tactic they can find to "get on with it".

Generally the base/tactic link expected in terms of exchange theory was confirmed. A suggested model for continuing what could prove to be fruitful reasearch in the area of base - tactics is outlined in Appendix F.

Hypothesis 3 was the one finding which did not lend support to exchange theory. Team members' perceptions of the amount of abuse was significantly lower than what was observed in the video analysis. Three factors may be responsible for this finding. The most obvious possibility is that those variables labled as abusive are not seen as being counterproductive by the teams. This possibility was contradicted in that no experimental team challenged the legitimacy of the variables when they were presented at the outset of the experiment or when followed up later. This question clearly needs further research. Perhaps a better way of constructing the abusive tactic list would be to have team members create the list.

A second factor contributing to these findings may have been dissonance reduction (Festinger, 1957). Individuals may be unable to recognize this level of abuse as it would interfere with their need to feel close to the power figure or the need to feel in control of their own destinies.

A third factor comes from the work of Scissons, 1979, who found that engineers as a group were far more likely to take the offensive than the defensive. Thus, engineers may perceive a lot of abusive behaviour as the norm. The three teams that disagreed most strongly with Hypothesis 3 were the engineering teams and the management team, largely made up of ex-engineers.

If any of the above reasons are the cause of this result, exchange theory may still be valid, but further research would need to involve the individuals themselves in defining what is an abusive use of a base. It may be easier to recognize the positive factors which load on a given base than the negative.

Generally speaking, these results supported an exchange theory of power. More research in the area of connection between bases and tactics, and base identification, could prove fruitful.

Power Balance

Before the experimental results on balance were analyzed, it was necessary to look at possible dependent variables that could be used. The dependent variables which were examined in Hypothesis 5 were relative air time, speech lengths, frequency of interruptions, frequency of initiations, frequency of decisions initiated, percentage of successful initiations, and percentage constructive uses of power. The formulae applied to these rankings were able to reliably produce the two to four power holders named by the group; however they were not able to duplicate the exact perceived rank orderings (see Table 11). The perceived rankings were based, however, on a wider sample of behaviour, namely all the teams' previous encounters, whereas the formulae were based on only a twenty minute segment in the life of the team. The measure might have life of the team. The measure might have more concurrent validity if repeated samples and averaging were used. Although this was a limited test in terms of construct validity, the measures appear to have adequate face validity and performed well enough to be satisfactory for the purpose of this research. The power index 2 was selected to use in Hypotheses 6. The power measures used were relative air time, initiations, decisions, interruptions, and constructive uses. The reason that the list used was reduced was that four of these five had the most literature support. Also speech length had an inadequate inter-rater reliability, and, more importantly, computation using only the five produced the same power holders as when all six indicators were used. PI_2 included constructive uses which is a direct measure of the exchange process and thereby is more consistent with exchange theory. In addition PI_2 was able to more accurately produce rankings.

The balance intervention proved statistically unsuccessful. More will be said about the flaws in the limitation section. The only team with an impressive correction in the experimental group was the management team (see Table 16). They took a lot of ownership in the fact that their team was not balanced, had a lot of unresolved conflicts, and was not working very effectively. They then proceeded to use the intervention as a tool to help them correct their problems.

There may have been a central reason for the lack of stability in the balance of power relationships in the control teams. As mentioned in the results, three of the four teams had central power holders missing. This would upset the usual power balance and increase the deviations from a balanced position as power scrambling occurs.

The effect on maintenance and operations of the absence of the powerful energy based members may relate more to how abusive the inidividual was rather than how energetic. Where the abuse was high and was removed the power imbalance decreased whereas where the energy had been mainly constructive the imbalance increased (see Table 16).

In the accounting team power was very bipolar in distribution initially. One individual went on a training program in the interim and became far more effective. The link-pin has been upset by the power attributed to him initially and subsequently pulled back (see ⊙ figure in Table 17).

The control team whose power imbalance increased the most the second time was the cross organizational team. It could be that in this type of team the power is more situation specific than in other types of teams, as the team members are all there in a representative capacity. If someone had been sent with an issue from her department, then she doesn't really have any choice as to whether she will initiate and provide information and expertise around the issue, because she must subsequently report back to her home team. This does not mean that there is not a relatively stable power hierarchy existing, but that there is a situational power factor working as well. To get a reliable picture of the power distribution and balance in this team would probably require repeated samplings of longer segments.

To be successful, the particular intervention employed would require that the researcher obtain cooperation from all parties, in particular the two power figures. A better intervention might consist of the experimentor staying with the teams for the six weeks and working with the team members and the power holders in attempting to change the nature of the power base to be more facilitative. Another possible intervention strategy might involve facilitative training as outlined in the introduction for all overly powerful individuals to try to develop a more facilitative orientation.

A further possibility involves working with the less powerful people in an assertiveness training program. Perhaps it is not so much that they lack a resource to exchange as it is a matter of forcefully demonstrating that resource. The effect of removing power holders from the control group suggests that their removal alters the balance in a positive direction. Perhaps six weeks without the power holders would give the teams enough time to develop bases in weaker members and consequently redistribute power more evenly on a permanent basis.

Another possibility is to reduce the formality of the setting. Gavin and McPhail (1979) found that interpersonal attraction was effective in changing power relationships. In this work setting, work related bases such as information and expertise are more likely to receive attention than personality or creativity. In a less formal setting it may be more permissible for a less apparently relevant resource to emerge.

Power Abuses

The intervention associated with Hypothesis 7, aimed at abuse reduction, was unsuccessful when compared to a control group. As mentioned in the results, however, both relative and total abuse were reduced (see Table 13). When the experimental group is compared to itself, a significant difference is found from between time 1 and time 2. Sixteen of seventeen subjects who exhibited abuses during the first taping reduced their relative frequency of abuse during the second taping. The increases in abuse in all cases came where the individual had not shown any abuses during the first taping. An explanation that occurs for this result is that these individuals (when they attempt to influence) are trying on new behaviour and consequently are awkward.

The only rationale that occurs for the reduction in abuse in the control group was tentatively suggested in the result section. Perhaps abuse fosters abuse. Its removal, therefore would result in a decrease. Having some of the key power figures away may have had this effect. There is sketchy support for this conclusion in the literature (Bullis, 1978).

Another problem related to this finding was the poor inter-rater reliability on the abuse variable. The tape analyzer who achieved the lowest reliability was working with the control group tapes.

Operations and maintenance were the two cases in the control group that had a consistent reduction in abuse across subjects. In the operations team, less air time was used; thus the reduction in abuse may have been due to a decrease in time for any kind of power behaviour, and not a specific reduction in abuse per se. Both teams were missing their most prominent abusers, which fits with the first rationale stated.

The intervention used in abuse reduction required both cooperation and courage. In debriefing the group at the end of the experimental session it was discovered that on average only three or four abuses were tagged at any given meeting. Thus if there was an experimental effect, it probably related more to team member awareness of what behaviours to avoid than any feedback received. It would probably help to have designated an external facilitator to do the flagging, who could then concentrate on abuses without having to attend to meeting content as well.

Another behavioural technique which may result in fewer abuses would have been to have a scorekeeper who posted the abuse for all to see as it occurred. This would have the additional effect of illustrating relative frequency of abuse to the whole group, and serve as a strong social punisher.

Team Functioning

Two results appeared to relate to team functioning; position base, and the nature of the bases identified.

Position was raised as a base in four teams. Generally as previously mentioned those teams had a high initial power imbalance (see * Table 16). The administrative technician's team which also had a high initial imbalance had recently increased by a factor of one third. This supports the author's contention that team effectiveness is related to power imbalance. Position power should not exist in any of the teams according to the philosophy on which they were organized. To the extent that where position power existed, power was unbalanced, suggests that there is a need to work in this area. As stated previously, the link-pin is responsible for advising, contributing as an equal member and facilitating. Three of those teams which retained position power are unique in that the link pin is also charged with evaluating the technical performance of all the team members because they are teams of specialists, and consequently can not evaluate each other. Conversely, in an operations team, evaluation is the responsibility of the team, rather than the link pin. This no doubt has contributed to the occurrence of this base in these teams, and not surprisingly has affected the balance. It is probably important that individuals labelled with this base receive extra training in being facilitative as opposed to being more traditional in exercising the base.

An interesting finding during the data analysis was that one may be able to determine how teams see their mandate by generating and interpreting the overlap of the group and individual base lists. If everyone sees information as a base, then the individual must see the team as filling a coordinating function. On the other hand, if every team member sees expertise as a variable, then problem solving is more likely to be the perceived mandate.

Using this analysis technique the resultant perception of the roles produced by the present data is that the process control and plant engineering and operations teams see themselves as problem solvers; management, cross organizational, accounting, and maintenance see themselves as coordinators, and the secretaries see themselves as both (see Table 12).

One of the problems that has arisen historically in the maintenance team is its failure to take ownership of its problems. It may be that the member's basic perception of their role is contrary to that of management's. The results of the other teams, except accounting, are predictable, although ideally both management and cross organizational would see themselves as problem solvers and coordinators. Accounting has been having a work backlog problem, which may have produced their emphasis on coordinating. They may see this as the only way of getting caught up.

Another way of using the base data at a team level to determine if the teams are similar or unique in function and process is to look at the group list of bases in combination with information on the power distribution of the power holders (see Table 8).

In the management team although the vice president held three of the four power bases he was not the most powerful figure. The bases which he held were predictable - information and expertise, both of which tied logically to position. He did not label position power himself, which parallels the process which occurred in the accounting team and which produced the same result re distribution. These two cases would suggest that when deference is the basis of the power, exchange behaviour (power behaviour) need not occur but that the expectation rather than behavioural cues results in the labelling. This partially legitimizes adding the anticipatory aspect to the operational definition of power (Nagel, 1968).

The fourth base in the management team, energy, certainly coincided with the visibilty of the manager holding the base. In the debriefing, several comments were addressed to him concerning the amount of air time he occupied. This was supported in the raw data as well where his air time score was twice his appropriate share of the air space.

In the process control team, the link-pin possessed both facilitation skills and connections as bases. He had had special training in the former, which may have contributed to this result. The latter base is not surprising either, as he sits on several teams, as a member of technical management, and as a link-pin in an operations team. This team is primarily a problem solving group so that communication skills and expertise are logical additional bases.

The fact that the four skills resided in two individuals has created a power distribution problem (see Table 17). An interesting occurrence with this team was that although the link-pin reduced his dominance by sixty points between the two tapings, sixty six percent of this decrease was picked up by the other power holder. This emphasizes the need for the cooperation of the power holders in carrying out the intervention if it is to be successful.

Plant engineering parallels the management team. It is similar in role as well, having both coordinating and problem solving functions and being made up of specialists.

This team had one of the most serious power imbalances. The link-pin on this team felt and stated that team concensus was unachievable in many cases. His one hundred and eighty two percent deviance was three times higher than that of the next power holder. This is a case where the position power holder appears to be actively exhibiting behaviours which indicates that he has the power and intends to keep it and to utilize it.

The administrative technician team and the operations team had the same bases. Where the power bases were more evenly spread in the operations team their imbalance was not quite as great. The energy and communication skills were generally associated with the heavy power holders. As was suggested earlier, these are possibly two of the first bases to replace position. Unlike the other teams, neither of these teams has a link-pin who is a functionally related member of their team.

The cross organizational team was the only team with personality (which has been defined as rectitude or honesty) as a base. As suggested in the results, this may have emerged by virtue of the fact this team was charged with making policies that affect everyone in the plant. The deference to position is disappointing but not surprising considering that it is the only team which crosses all four levels in the organization. Position power appeared to be exercised as well as anticipated as the manager in this role achieved a deviance score of one hundred and fourteen percent. Information is logical because of the purpose of the team.

Maintenance was unique in that the most important base, information, was felt to be equally divided amongst the team members. Maintenance teams are not pure teams in the sense of the earlier definition. They have been created by the department because of number rather than interdependencies. The interdependencies are sporadic, in constant flux and not necessarily between a given team's members. Not surprisingly therefore, team meetings provide an opportunity for information exchange. As mentioned previously, the maintenance team also tended to perceive its role as coordinating rather than problem solving.

One of the power holders in this team who was denied his base by the group concensus process is the link-pin. Maintenance historically has had a "we - they" employee - management problem from a tradesman's perspective. It was interesting to note that they are currently dealing with it by telling their link-pin that he has no power, even though the tapes for times 1 and 2 clearly show that he has. In fact, the link-pin increased his power at time 2 and may have been trying to retaliate.

Although there are differences between teams, the selection across teams of information and expertise bases generally reflect a task orientation as opposed to a social one. The additional bases selected such as energy, facilitation skills, communication skills, and personality seem to relate to facilitating the process in these groups and may be replacing position power or a reduced position power.

IMPLICATIONS

The implications have been stated during the research, and thus will only be summarized here. There is support for an exchange theory approach to the social influence process More work needs to be done in the area of linking tactics to bases, both constructive and abusive.

When this work has been completed it should assist researchers in identifying strategies which will produce more of power related behaviours in less powerful individuals. It should also assist in designing interventions to reduce abuses.

The results (around balance) in the control group suggest that an intervention that actually removes highly deviant power holders for a period of time might redistribute most effectively in the long run.

The work in the area of dependent variables indicates that the creation of a power index is certainly a good intermediate step in the measurement area until such time as it becomes possible to measure SEU's directly in this type of setting.

Another new direction research might take is in identifying target behaviours, and target response behaviours to tactics employed by A. This would fill a gap in the present research and further illuminate the process. The author frequently noted such patterns as ridicule - counter ridicule, threat - silence, although none of these were scored or analysed as such.

Although the research area is a wide and complex one, it appears possible to increase our understanding to the point of prediction and modification by this sort of research.

LIMITATIONS

There were several limitations in the current research, some of which were mentioned in the earlier part of the discussion. One was the nature of the setting of the study. A field study has several inherent problems; lack of control of variables, lack of control of subjects, generalizability, and leakages. These are all problems that the current study encountered. Variables which probably influenced the present results were: management commitment, internal pressure to participate, ownership in a particular problem, lack of commitment to the experiment, differential commitment to the experimenter, etc. The list is potentially infinite. Turnover and absenteeism between tape one and tape two were two major problems that changed the structure, hence, the nature of the groups and their power distribution.

Generalizability is certainly questionable. With a sample being in some cases as small as one, it is clearly difficult to generalize. The company selected was not selected at random and the team selection was not random.

The statistics used were sensitive to sample size and are questionable with samples (this size).

As Gavin and McPhail (1978) noted, when an experimenter is working within an organization, to change one sub-unit is to change the whole structure. How much of a ricochet effect occurred in this study is unknown, but it probably existed.

In hindsight, a few experimental errors no doubt also created some problems. It would have been better if the control groups had not identified the power base analysis at the first taping, but at the end of the second. The discussions around bases were volatile and a lot of conflicts and feedback surfaced. This created another independent variable which could affect the dependent variables.

The experimental team was heavily weighted with engineers while the control teams were mixed. This is another variable which could have affected the outcomes. As mentioned, research suggests that engineers have a distinctive personality profile. These variables may have resulted in these groups being less adaptable and thus less easy to change.

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APPENDIX A

DEFINITION OF SECONDARY TACTICS

Not answering - ignoring a request for information or expertise.

Evasiveness - hedging when replying to a question or request for information or expertise.

(eg.) "Well, I'm not really sure." - when she is.

(eg.) "It could go one of several ways." - when she has decided on one.

(eg.) "I'm not really in a position to disclose that." - when she is.

Capping - to make a statement which stops discussion on that issue.

(eg.) "In my years with the company it has always been done this way and has been quite successful."

Put-down - a comment which implies that B's reasoning processes are unsound.

(eg.) "You mean you really believe that!"

Deflecting conflict - focusing on another issue before a conflict is resolved.

Guiding - steering the group through issues that A wants dealt with and away from issues A does not want the group to deal with.

Guiding (cont'd)	- (eg.) "I think this is more important than what we're talking about." (eg.) "That reminds me of this other business which we haven't asddressed."
Circling	- talking about peripheral issues without addressing the problem. (eg.) complaining about salary, office space, etc. when the problem is lack of recognition.
Gatekeeping	- determining for the group what is legitimate business and what is not. (eg.) "We're getting into dealing with Jane's problems when we should be looking at this over-time question. Let's get back to it." (eg.) "That's not up to us to decide." - when it is.
Ordering	- telling other team members what to do. (eg.) "You do the economic analysis; you do the survey," etc.
Alliances	- making it clear that B will have to deal with more than just you if she doesn;t comply. (eg.) "I'm not the only one who thinks this. Peter and Paul agree with me too. Right, Peter? Right, Paul?"

Long verbal speeches	- talking at length in a repetitious fashion, or not adding anything to what was said previously.
Disapproval	- showing displeasure with an issue, someone's behaviour, or the process. (eg.) "I don't like your attitude." - can be non-verbal as well; a frown.
Threat	- Implying that if B does not comply A will punish. (eg.) "If you are unable to complete this assignment, I'm afraid we won't be able to send you to Houston for the convention."
Warning	- Implying that an unpleasant consequence will result from an external source if you carry through with your intentions or if you fail to comply with A. (eg.) "I don't think the process control will like that."

APPENDIX B

CONSTRUCTIVE USE OF POWER

Initiations - presenting a new idea, starting the process in motion.
(eg.) "Where should we hold the annual meeting."

Information - presenting information that a group needs to solve its problem.
(eg.) "Managment has decided to create a new department, perhaps if we look at our overload problem from that perspective it will help us."

Expertise - providing expertise that the group needs to solve its problem.
(eg.) "Ferguson's work suggests that there are flaws with our model, maybe if we tried the new approach of Lee's I read about it would help."

Feedback - providing information about the impact of behaviour.
(eg.) "The team looks like it is wallowing through a swamp right now and I'm feeling frustrated - does anybody know what our problem is?"

Focus - Focusing on behaviour or an issue.
(eg.) "I think we've got sidetracked from our goal here. Maybe it would help if we went back."

Providing organizational framework - suggesting a process for dealing with an issue, or series of issues.
(eg.) "Maybe we should define the problem first, then think about it for a week, recheck our definition and start to produce a list of alternative solutions."

Resource - providing a service, or material, or self.
(eg.) "I could loan you our systems analyst for a week."

Approval - showing pleasure about an issue, someone's behaviour, or the process.
(eg.) "That is an excellent suggestion. It should speed this up immensely."

APPENDIX C

HANDOUT ON RATING SCALES

WEEK 2

	1	2	3	4	5	6	7	
POWERFUL								POWERLESS
POTENT								NON-POTENT
DOMINANT								SUBMISSIVE
TENACIOUS								YIELDING

APPENDIX D

HANDOUT ON POWER HOLDERS

Name of power figure

Name of team member	Week 1	Week 2	Week 3	Week 4
a) Encouraging participation - making sure that every team member has stated an opinion on the topic.				
b) Inititating or clarifying - making sure that all team members' opinions are discussed and explored by the team to the satisfaction of the orginator.				
c) Support - actively showing support for another team member's ideas or behaviour whenever you agree with it.				
d) Feelings - seeking and obtaining other team member's feelings on issues, behaviour or the process.				
e) Checking for authenticity - if team members shift position substantially draw attention to this and check the reasons for the shift.				
f) Power conflict management - if team members reveal feelings of being coerced or giving in explore these feelings and facilitate any conflicts that emerge.				
g) Role facilitation - encouraging team members to take on roles they do not typically volunteer for or occupy.				

SCORE BY GIVING A 1 to 5 where 1 means exhibited none of this behaviour and 5 means exhibited a lot of this behaviour.

APPENDIX E

COLLAPSED BASE LIST

Revision of Bases

Information = information

Position = position, legitimate

Expertise = expertise, knowledge, intelligence, performance, experience

Facilitation = facilitation skills, understanding, collaboration, concern, help, support

Connections = connections, resources

Energy = energy, initiative, aggression, persistence, interest, expressiveness, contribution, priority, committment

Communication Skills = communication skills, voice, logic, humour

Personality = personality, respect, openness, honest alliances

Creativity = creativity

APPENDIX F

TACTIC - BASE LIST

Tactics

Base	Constructive
Information	information, initiations
Position	approval, initiations
Expertise	expertise, clarifying
Facilitation	providing organizational framework, focusing, supporting, feedback
Connections	providing supplies, personnel etc, promises
Energy	initiative, persistence, expressiveness, enthusiasm, assertiveness
Communication skills	clarifying, summarizing, initiations
Personality	approval, activation of commitments
Creativity	creative ideas, initiating

Tactics

Base	Abusive
Information	evasiveness, capping, guiding
Position	disapproval, threatening, ordering, capping, put downs, guiding
Expertise	gatekeeping, evasiveness, capping, circling, put downs, disapproval
Facilitation	circling, deflecting conflict, guiding, not answering, gatekeeping
Connections	withholding supplies, personnel etc., mendations
Energy	long verbal speeches, interruptions, overriding, aggressiveness, stubborness
Communication skills	put downs, long speeches, deflecting conflicts, guiding
Personality	alliances, disapproval, put downs
Creativity	evasiveness, guiding